

MAR 7 1938



the MODERN HOSPITAL

VOLUME 50

MARCH 1938

NUMBER 3



"I do not prize the word 'Cheap.' It is not a word of hope, nor a word of cheer. It is not a word of inspiration. It is the badge of poverty, the signal of distress. Cheap merchandise means cheap men and cheap men a cheap country."

—WILLIAM McKINLEY,

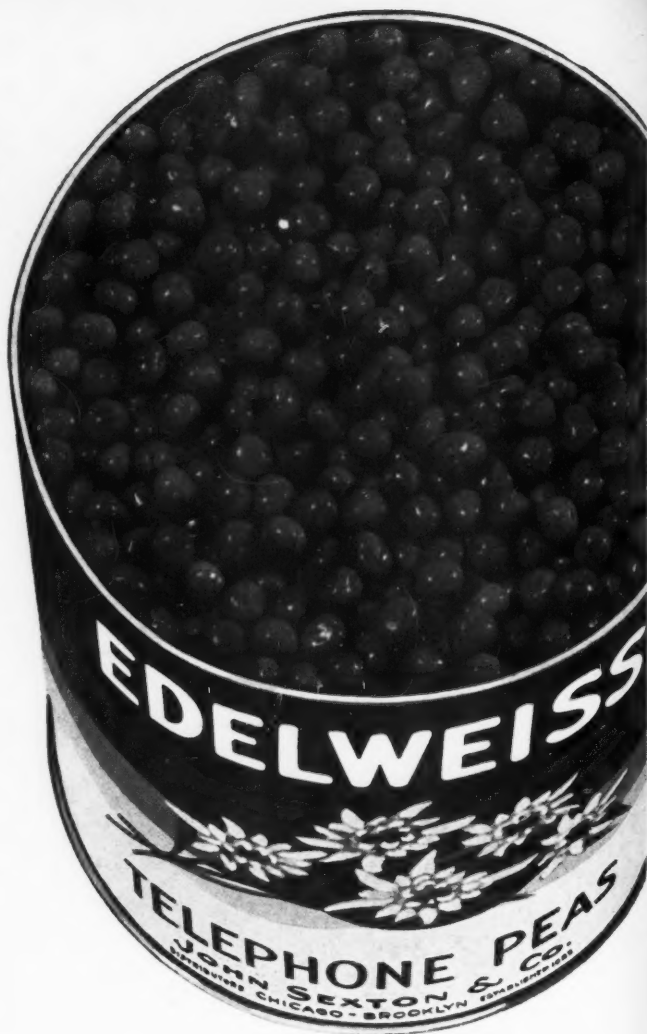
24th President of the
United States

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SEXTON QUALITY FOODS

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For March, 1938

Just in Passing—

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AT THE moment the Middle West is blanketed by one of the heaviest snows of the year and similar wintry conditions are reported from other northern cities. This makes it a happy time to discuss hospital gardening. The "compleat" gardener is delighted to have snow; for one thing, it gives him time to plan the finer effects that he wants to achieve next season.

To help him in this planning we shall present two articles. One, to appear in April, will deal with the general problem of landscaping the hospital grounds. It is prepared by David Fairburn of the Missouri Botanical Gardens, St. Louis, whom many readers will remember as the author of an article on flower selection and arrangement that appeared some months ago.

A logical extension of Mr. Fairburn's general treatise on landscaping will be an article in the May issue by Nelva M. Weber of New York, giving specific details regarding methods of improving the hospital courtyard. "Gardens Within Walls" is the title.

HOW many hospitals treat the emotional as well as the physical difficulties of their surgical patients? Anticipatory anxiety over surgery often results in emotional complications and may even cause prolonged psychic invalidism. Next month Dr. J. D. Reichard will tell of new techniques designed to avoid psychic shock. Your surgeons and you will read his article with profit.

IN LONDON they pay threepence a week; in New York it is three cents a day. In each community this is the generally approved way of paying for hospital care. What can New York and all other American cities with or contemplating hospital care insurance plans learn from the English experience? Much, says Charles F. Neergaard, following a trip

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to England. Just how much he will tell next month. In view of the suggestions now being put forward by Doctor Goldwater and others in New York, as reported in our news columns this month, Mr. Neergaard's article should be eagerly anticipated.

OF COURSE wages, hours and working conditions are the basic factors in a hospital's relations with its personnel. But when an institution has done as much as it can afford on these three items, isn't there something else? Dr. J. Allen Jackson believes that there is a "plus" factor in personnel relations, namely, a genuine personal interest in the welfare of employees. To attempt to pawn off this "plus" factor in place of proper hours and wages leads to difficulties if not disaster. When it is intelligently added to proper basic working conditions, it leads to higher levels of efficiency and greater loyalty. Doctor Jackson will discuss the matter fully next month.

ANOTHER article in our series on the administration of government hospitals will appear next month, this one from the pen of Dr. Arthur C. Bachmeyer. Although Doctor Bachmeyer is now director of the University of Chicago Clinics he spent more than twenty years in Cincinnati General Hospital, as intern, resident and administrator. He knows the problems of municipal hospitals as intimately as does any man in America.

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FOOD SERVICE

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Proof that four heads are better than two. Since Temple University Hospital, Philadelphia, doubled its staff of dietitians, food cost has decreased \$1,200 a month and teaching courses have improved. ALICE M. KARSLAKE, dietitian, tells the story.

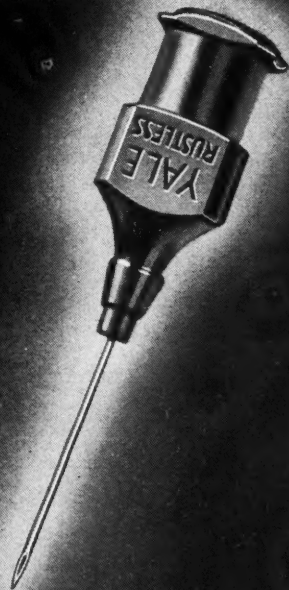
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And often superior in the amount of vitamin content and in appearance, are frozen foods, declares ANNA E. BOLLER, food service editor. She describes methods of storing them.

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Census Data, on Reporting Hospitals ¹		1938	1937	1936	%	1937												1938																
						J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D					
Type and Place	Hosp.	Beds ²	Jan.	Dec.	Jan.	Dec.																												
Government																																		
New York City.....	17	11,328	96	91	96	90																												
New Jersey.....	5	2,122	87*	87	82	80																												
Washington D. C.....	2	1,596	65*	65*	71	69																												
N. and S. Carolina.....	13	1,549	61*	61	67	64																												
New Orleans.....	2	2,466	98	97	98	97																												
San Francisco.....	3	2,255	89	88	91	87																												
St. Paul.....	1	850	70*	70	76	73																												
Chicago.....	2	3,619	85	81	86	83																												
Total ⁴	45	25,785	81*	80*	84	81																												
Nongovernment																																		
New York City ³	68	15,194	71*	71*	75	70																												
New Jersey.....	50	9,772	65*	65	69	62																												
Washington, D. C.....	9	1,808	73*	73*	67	70																												
N. and S. Carolina.....	109	6,833	60*	60*	64	61																												
New Orleans.....	7	1,146	69*	61	66	56																												
San Francisco.....	16	3,178	74	70	78	70																												
St. Paul.....	8	894	66*	66	81	83																												
Chicago.....	16	3,450	63	60	63	57																												
Cleveland.....	5	721	82	71	75	67																												
Total ⁴	288	42,986	69*	65*	71	66																												

¹Excluding hospitals for tuberculous and mental patients and institutional hospitals. Census data are for most recent month.

²Including bassinets, usually. ³General hospitals only. ⁴Occupancy totals are unweighted averages. ⁵Preliminary report.

Complete occupancy figures for January, 1933, to October, 1937, are given on page 834 of The Sixteenth Hospital Yearbook.

1930 OCCUPANCY IN GENERAL HOSPITALS

----- GOVERNMENTAL (74.8)

----- NON-GOVERNMENTAL (62.0)

Preliminary figures for January showed that the voluntary general hospitals recorded a substantial gain in occupancy over the December average but dropped two points below the level of January, 1937. When the final figures are in, however, it may be that this year will equal last year. Of the four cities from which complete or nearly complete reports are in, Cleveland and New Orleans show higher occupancies, Chicago has the same figure as last year and San Francisco shows a drop.

In the reporting government general hospitals there is a decrease over last year's figures. Final reports from New York and New Orleans give the same percentage of occupancy, while in San Francisco and Chicago the government hospitals had slightly lighter loads than they did a year ago. For them also final figures will probably be higher than the figures here recorded.

Hospital construction contracts continued to be awarded at a heavy rate during the four weeks ending February 14. A total of 62 building projects were reported with costs (stated for 60 of them) totaling over \$11,070,000. Since January 1 this makes a total of more than \$17,500,000 of new hospital build-

CUMULATIVE TOTALS FROM JANUARY 1st

Month	1936 (Solid Line)	1937 (Dashed Line)
J	0	0
F	10	5
M	18	10
A	25	15
M	35	25
J	45	35
J	48	40
A	50	45
S	52	50
O	75	75
N	100	100

ing projects announced, a substantial increase over the \$10,300,000 announced during the same period of 1937. Additions to existing hospitals continue to constitute by far the most important group of building projects.

Of the 62 plans reported, 47 were

additions and 45 of these reported costs of just under \$10,000,000. There were also nine new hospitals to cost \$828,000, four alteration jobs involving a total cost of \$174,000 and two nurses' homes on which it is planned to spend \$183,000.

A further slight decrease in the general wholesale price index was reported by the *New York Journal of Commerce* for the period from January 17 to February 21, the index number dropping during this period from 80.3 to 78.8. However, on January 3, the index number also was at 78.8 so there has been no persistent trend up or down.

The prices of certain groups of commodities, however, have shown some variation from the general trend. During the last five weeks, for example, the index of food prices wavered as follows: 66.2, 65.9, 64.7, 65.4 and 67.7. Textiles also went down and then up. Grain prices dropped substantially from 80.2 to 75.3, and the price of building materials also dropped (from 97.1 to 93.8).

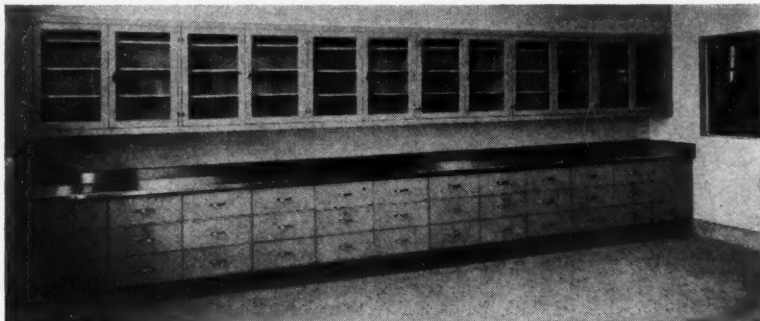
A slight decrease in the price index of drugs and fine chemicals as tabulated by the *Oil, Paint and Drug Reporter* was recorded in this period.

Business Manager and Chief of Staff **AGREE—**

*One says, "Keep costs down"
The other says, "Keep sanitary standards up"
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Monel food service equipment in special diet kitchen of the Kansas City General Hospital, Kansas City, Mo. Fabricated and installed by Duparquet, Huot and Monense Co. of Chicago.



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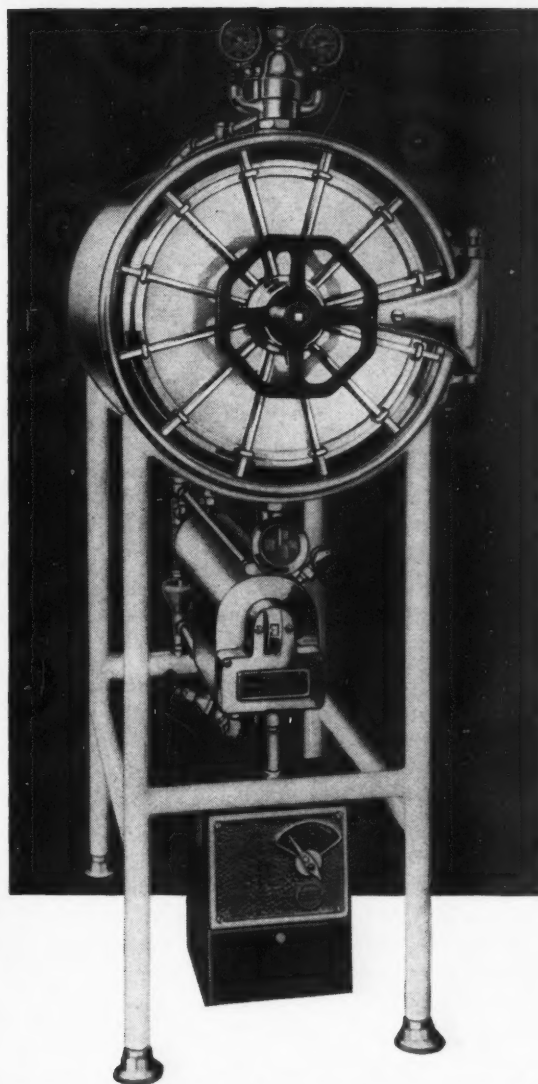
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Sterilizer shells fabricated by American Sterilizer Company of Erie, Pa. Walls of the Sterilizing chamber and the steam jacket are made of Monel as well as outside shell.

(Left) Built-in cases installed by the General Fireproofing Company, Youngstown, Ohio, in the surgical dressing room of the Youngstown City Hospital, Youngstown, Ohio. Monel tops were standard equipment in several hundred of these units.



American Monel Cascade Washers and Extractors in the Doctors Hospital, New York, N. Y., manufactured by the American Laundry Machinery Company, Cincinnati, Ohio.

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THE EDITOR Talks It Over

Time to Swat

• In northern climes spring is a time long anticipated by the members of the family of *Musca domestica*. Fly time begins long before these pernicious and disease-carrying insects appear in numbers. As soon as the winds of winter cease to blow, the forehanded hospital executive organizes a search for the breeding places of the house fly. This protects hospital kitchens, dining rooms and wards from the entrance of these pests. Some are not aware that the larvae of the house fly may remain buried from November until spring and then emerge as a menace to the health of the public.

If one is statistically inclined he will be interested to know that in twenty-four hours the egg changes to the larva, in six days the larva to pupa and in four more days the adult insect emerges to live about one month. The myriads of flies that follow from the maturation of one egg can be computed when one knows that the insect lays about 120 eggs three days after coming from the ground. Thus a new generation is born every two weeks.

Not only must the executive be sure that the hospital premises cannot serve as breeding places for the house fly but also it is his responsibility to enforce public health regulations when insanitary conditions exist outside the hospital property. The time to swat the fly is before the egg is laid.



Cure for Loiterers

• There is a genus of individuals who seems to believe the superintendent's office is a place in which to while away dreary minutes in light and inconsequential conversation. Indeed, some executives appear to have the same idea.

There are various approved methods by which loiterers may be courteously dismissed. His private secretary has

been known to bustle into the superintendent's office with important messages or telephone calls for him to make. Merely rising from the executive chair is rarely effective.

Not many possess the art to avoid wasting time and still refrain from offending those who honor the superintendent's office by their presence.

Doctor Holmes' advice to the young physician who found himself detained too long by garrulous patients cannot be taken by the hospital executive, except perhaps the first portion of this direction. Whenever the young physician encountered a patient who was inclined to talkativeness Doctor Holmes advised him to take out his watch, note the time of day and then charge 15 shillings for every twenty-five minutes. Many young physicians could develop into fairly good listeners if the advice of this sage of literature and medicine were taken.

Statistics by Graph

• There is no more interesting method of portraying occupancy expenses, post-mortem and other statistics than by employing a cumulative graph. Boards of trustees welcome such information. A monthly or semimonthly communication from the executive to board members showing rise and fall of costs, percentages of bed occupation, increase or diminution of certain types of disease and other matters relative to the hospital serves a good purpose. Statistical statements are useful but when they are easily visualized, as is the case with a graph, their impressiveness is multiplied many times.

Routing Hospital Magazines

• How far do the monthly hospital journals penetrate beneath the epidermis of the hospital's corporate body? Some safely reach the superintendent's desk, there to gather dust and become harmlessly and pleasantly venerable. Some reach the apartment of the superintendent and are perused thoroughly during odd rest hours at home. Others repose on the desk of the superintendent's secretary and there pages are thumbed by those who await audience with the hospital head.

In some institutions, and this is a practice much to be commended, a routing sheet is employed that carries the journal far and wide throughout the institution. It also brings to the attention of those most interested articles of the month that appear useful to each department head. A subscription to a journal certainly is a good investment if but one person reads its pages. When a half a hundred await its coming it may require two or more copies to make this circulating library effective. If routing slips are employed the journal's usefulness is multiplied many times. Sometimes the superintendent's clipping bureau, usually headed by his secretary, takes charge. In that case no magazine file is kept, but articles are removed and forwarded to those interested. Whatever the practice employed no live institution can continue so unless it receives each month that stimulation that comes from learning what other people are doing to improve their service.

Nurses Skilled in Tact

• There is much being said today about the science of nursing but let us not forget its art. The nurse may be as wise and as skilled as the fabled Panacea, yet if her hands are icy, her footsteps heavy or her tongue too facile, her virtues avail her not.



The nurse who jocosely asked the hungry fourth-week typhoid patient on Christmas Day how he liked his turkey dinner should have been cast into outer professional darkness.

Then there is the "I-once-nursed-a-patient" nurse. It is she who describes in detail the rupturing of thoracic aneurysm—a topic of intense interest to the physician, perhaps, but wholly inappropriate to discuss with the man afflicted with a dilated aorta.

Some nurses are veritable special editions of an institutional paper, knowing all the gossip of the hospital. Others issue frequent bulletins to their colleagues relative to their patient's peculiarities, past history and present personal affairs. Thanks to the excellence of most of our schools of nursing, these incidents are not representative, but when encountered they do irreparable harm to the reputation for tact possessed by most graduate nurses, such as the girl shown in the photograph.

LOOKING FORWARD

Wanted—A Code for Trustees

SATISFACTORILY to codify the rules governing human relationships as they affect professional and business activities is always difficult. Concise and specific directions covering the relationships of trustees and hospital executives are as important to the welfare of the patient as is the adoption of other regulations more closely touching his physical care.

Executives and their superiors, the members of the governing board, do not always agree on the cause for unsatisfactory hospital conditions. Trustees are wont to claim that it is necessary for them to administer because the superintendent is ineffective. The superintendent is inclined to state that boards of directors meddle because their members do not recognize the duties or possess the requisites for good hospital trustees.

The fact remains that hospital executives are inclined either to genuflect too much or else to look with pitying gaze upon their trustees as persons wholly uninformed as to the methods of conducting a hospital. On the other hand, if executives are inclined to be positive in their attitude toward administrative problems, they are sometimes considered as defiant or insubordinate. A search for a middle ground upon which each may meet and understand the other is often unsuccessful. The result is an impasse, which results in the administrator seeking other fields in which to labor.

Would it not be possible for a code of relationships to be so thoughtfully conceived and so concisely set down, that it might serve as a document to guide boards and administrators and thus avoid harmful misunderstandings? It could cover such matters as a definition of the policy-making activity of the board as distinguished from the administrative function of the superintendent, the relationship of board committees to the executive and to the board as a whole, the deprecation of surprise visits by inspecting committees, and the procedure regarding the origination and routing of orders. When left uncertain these matters serve to agitate the calm waters of everyday hospital living.

If no other purposes were served than properly to place women's committees within the organization, to decide the method of expenditure of funds coming into their hands, to arrange for the audit of these funds and to fix the relationship of such a group to the nursing

staff and to the patient, it would be well worth while.

Too long have good administrators been distressed by attempts to obtain from board committees a proper evaluation of reports as to unclean linen, floors and walls, foreign bodies in food, petty complaints of patients and matters of like ilk. The answer appears to lie in the formation and general adoption of a code of professional and administrative relationships, written in a cool, straight-forward manner, fraught with common sense and yet wholly devoid of personalities.

A Barrier to Progress

THE conflict between certain hospitals and certain groups in the nursing profession erupted rather violently in Minnesota recently upon the publication of "Nursing Education in Minnesota," a pamphlet prepared by Louise Muller, R.N., for the Minnesota Department of Education. While the details of this controversy are primarily of local interest, there are certain aspects of the situation that should be considered by hospital administrators and trustees and by nurse educators everywhere.

First of these is the fact that neither hospital administrators nor nurse educators are likely to achieve their objectives by taking extreme positions. Hospitals cannot successfully oppose reasonable advancement in the standards of nursing education. Nurses, on the other hand, cannot successfully advocate such a rapid increase of standards that they wipe out at one fell swoop most of the nursing schools without having substitute provisions made for educating a sufficient number of nurses to meet the nursing needs of the nation, both urban and rural.

A second important consideration forcefully presented in the Minnesota controversy is that progress in the advancement of nursing will be achieved more rapidly if both nurses and hospital administrators show consideration for each other's point of view. In this instance, an important report on nursing education was published apparently without any previous consultation with the hospital leaders of the state. As a result, the reactions against the report have tended to nullify what should have been an important landmark in nursing education in the state. Consultation, of course, should work both ways and hospital groups, when they are

formulating policies, can profit just as much by adequate consideration of the nursing viewpoint.

Finally, this incident serves to emphasize again the need for hospital administrators to formulate a definite statement of their responsibilities as educators when they conduct schools of nursing. The nurses have a program but in most instances the hospitals have none. If it comes to a test of strength, the man with a positive program always has an advantage over the man without one.

Respect for Regulations

CONGRATULATIONS to the joint maternal welfare committee of Cook County for the splendid work that it has done in preparing regulations governing maternity and nursery departments of Chicago hospitals! These regulations were put in force last month by the Chicago Department of Health. The regulations as modified by this committee are in striking contrast to the original draft prepared by the board of health.

There is no question that higher standards must be observed in maternity and nursery departments of hospitals. While keeping the objective of a substantially lower mortality rate among mothers and infants clearly in mind, the joint committee, under the chairmanship of Dr. Fred L. Adair of Chicago Lying-In Hospital, has also made a practical approach to the problem. Hospitals throughout the country would do well to write to the Chicago Board of Health or the Chicago Hospital Council for copies of these new regulations.

It is also appropriate to point out that the Chicago Hospital Council has again demonstrated the effectiveness of cooperative hospital effort, especially when implemented with the services of a competent full-time executive. The board of health and the various medical societies concerned have shown an increasing respect for the hospitals of Chicago as they function through the hospital council.

Geographical Obligations

DRIVES for hospital capital or maintenance funds are often annual events. Those who organize such efforts rightfully look about for a list of potential donors. Among these one properly finds the names of wealthy and charitably inclined individuals, of firms whose employees seek medical aid from the local institution and of other corporations within the scope of the hospital's influence and service.

But unfortunately the effort to raise money for the support of a local hospital is not always confined to the community in which the hospital operates. Here and there one observes strong appeals to firms whose manufacturing and wholesaling plants lie far beyond the service of the institution.

There seems to be little logic to support such a request. Following this idea to its reasonable conclusion every manufacturer and wholesaler who sells to institutions in the hospital field would be expected to contribute to every hospital requiring funds in the country, or the world, for that matter. Reducing this proposition to such an absurdity, no manufacturer could price his product sufficiently high to make a general favorable response to such requests possible. Moreover, each time it purchased a bill of goods, the frugal and well-managed institution would be required to pay for the inefficiency or misfortune of distant institutions.

Hospitals have no moral right to expect contributions from manufacturers except those whose plants or sales organizations are located in the community served by the hospital. Whenever a manufacturing concern, regardless of its product, is located near the hospital and its employees are served thereby when ill, a donation to maintenance or capital fund drives should be expected. But the mere fact that a hospital purchases goods does not justify it in endeavoring to obtain a contribution on this basis only.

Problem in Supervision

ONE reason why the government of the hospital is in the hands of laymen rather than physicians, quite apart from those reasons which are publicly known and approved, is that medical men are likely to be too selective in their choice of clinical material.

Uncontrolled by an impartial tribunal possessing communal balance, as well as clinical sympathies, and left to their own devices, medical men, in good faith and with the best intentions in the world, often set up informal standards of admission in accordance with their own interests. We thus find that cases are often selected for admission on the basis of (a) early curability; (b) shortness of duration of illness, promising rapid turnover; (c) educational value, and (d) research value. The ambulance surgeon, currying favor with his superiors on the visiting staff, is known to "ship to Bellevue" those patients whom he, in his immature judgment, prefers not to bring back with him to his own hospital. The legal right of selection is, unfortunately, beyond question at the moment.

The immediate representative of the governing authorities in the hospital is the administrator who is charged with the execution of its policies. The admission, retention and discharge of patients are, on final analysis, administrative functions in which the visiting staff plays an advisory rôle. Some hospitals wisely employ an impartial examining physician in the admitting room for the classification and assignment of applicants, subject to the policies of the hospital. Such an appointment recognizes the importance of controlling the enthusiasm of medical men for "interesting" cases. The administrator holds the key to this situation and

must courageously carry out the function of the hospital to relieve as well as to cure the sick.

The time was when hospitals were condemned for a high mortality record. We know better now. The hospital which permits curability as an absolute criterion for admission, in an age when differences of opinion on the subject are still sharp, parts company with a fundamental principle of humanity. This principle a neutral administrator, backed by an impartial governing board, can often enforce by a frank discussion of the subject around the table.

Professions in the Making

SEVERAL professions or professions in the making have developed as hospitals have developed. Nursing is the oldest and best established of them. Medical social work, hospital dietetics and record library service are others. These professions are intimately associated with hospitals, and with the possible exception of nursing function almost exclusively in the hospital. The members of these professions tend to organize, to develop professional standards, standards of training and definition of function and field of activity.

All this is to the good, but it is well that if in their efforts to acquire for themselves professional standing, they take into consideration the needs and purposes of the institution in which they function and upon which they depend for financial remuneration.

Unfortunately this has not always been done. For example, hospitals have established training facilities in relation to more than one of these professions. After a time, members of these professional groups have set up standards for training facilities and have enforced the adoption of these standards by giving professional recognition to the graduates of those training schools which meet those standards, and to no others.

There may be excellent workers in these several fields who render high grade service to the hospitals in which they are employed who cannot qualify under the standards established by their respective professions. If they happen to be heads of departments in the hospitals in which they work, those hospitals may experience difficulty in obtaining workers in their respective departments, particularly recent graduates.

By the same token, if one of these able but professionally unqualified practitioners seeks a position in some other hospital, she may find that she cannot hope successfully to compete for the position with professionally qualified candidates.

Hospital administrators usually consider it one of their essential prerogatives to determine to some degree what duties they have the right and the responsibility to require of members of these several professions.

It goes without saying that the adoption of professional standards is desirable. It is equally axiomatic

that such standards should not be held at the level of mediocrity that would result if there had to be postponement of their adoption and subsequent improvement until the approval of all hospital administrators had been obtained. Yet the members of these professional groups would be wise if they held frequent conference with recognized leaders in the field of hospital administration, particularly at times when they are developing or revising standards and policies and defining their respective fields. New professions may well keep in mind that short steps often are preferable to long strides and that it is never best to set a pace which makes one too soon outdistance those upon whose cooperation he must depend.

On the other hand, the development along professional lines of these several types of essential hospital activity makes in the long run for better work in hospitals. Hospital administrators do well to foster such development and to give it such encouragement and assistance as they may.

Tools for Administration

FOR many years hospital leaders have felt the need of some kind of a research institution on hospital problems. The work of committees of national and local hospital associations, while undoubtedly valuable, does not fully meet this need.

With the advent of university training courses in hospital administration there appear to be better prospects of achieving such an organization. At the present time, of course, the University of Chicago is the only such training course actually under way. However, others are projected at St. Louis University and at a few universities in other parts of the country.

A research center, however, requires not only personnel interested in the field of hospital administration but also adequate tools for carrying on such research. One of the most important tools is a comprehensive library of hospital books, magazines and pamphlets.

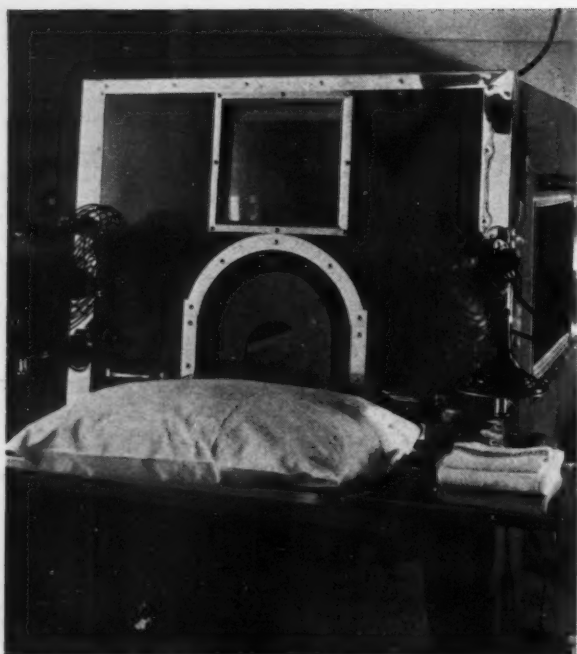
In a university such a library is made more fruitful because it can be used in conjunction with similar collections in the fields of philosophy, law, finance, education, engineering and the other sciences.

Libraries at such universities would not in any way detract from the valuable service rendered by the Hospital Library and Service Bureau at A. H. A. headquarters. The principal function of this bureau is to provide a package library service to persons engaged in hospital administration in all parts of the world. This is quite a distinct function from the development of a technical reference library for research purposes.

Such a library at the University of Chicago or some other suitable institution would not only assist in the prosecution of research projects now under way, it also would stimulate further research by indicating the gaps that now exist in our hospital literature.

Essentials for

EARL C.
ELKINS, M.D.



Head end of recently installed airconditioned fever cabinet, showing new type of window through which the patient is easily seen.

FEVER therapy in the last ten years has received much attention. Many papers have been written on the subject, excellent research work has been done and conservative scientific conclusions have been drawn. Its value as an important therapeutic adjunct in certain diseases has been definitely proved. It is now the consensus among those who have had the most experience that artificial fever is a major procedure and should be employed only in a qualified institution and by a well-trained personnel.

During the last two years the treatment of more than fifty diseases has been attempted by means of fever therapy. The results in the majority of these were not encouraging, although in a selected few the method has given promise of great usefulness. It must be emphasized, however, that probably fever therapy is of little or no value in the treatment of many diseases studied, and in some diseases it is very dangerous.

It has been concluded that the chief sphere of usefulness of fever therapy at present lies in the treatment of gonorrhea, both acute and chronic, and its complications. While this has been the greatest field, it has become more limited since the advent of chemotherapy by means of the new drug, sulfanilamide. While no final conclusions can yet be drawn, present studies would seem to indicate that a large percentage of patients who

have gonorrhea will respond to sulfanilamide therapy alone. At present I do not believe that sulfanilamide therapy will replace fever therapy, but I do believe that fever therapy will continue to play a definite part in the treatment of the more resistant types of gonorrhea. It is likewise suggested by early studies that in cases in which sulfanilamide fails, the combination of sulfanilamide and fever may be more effective than either one alone.

Studies in the treatment of syphilis by fever seem encouraging. Certain

workers feel that in early syphilis drugs and fever therapy in combination may be more beneficial than drugs alone or fever alone. The treatment of syphilis of the central nervous system by fever therapy has been rather successful and perhaps comparable to malarial treatment. None of the studies on syphilis is complete, however, and further studies and observations will be necessary before conclusions are drawn.

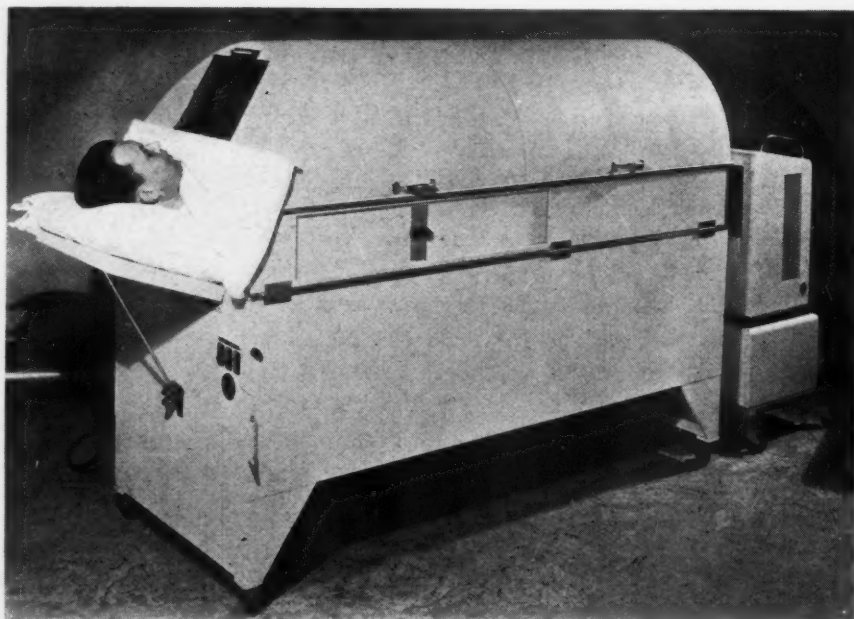
Chorea (St. Vitus' dance) has responded rather well to fever therapy in the hands of several investigators and it is believed that such treatment is worthy of further trial.

Undulant fever (Bang's disease, Malta fever) has responded well in a small group of cases, and the treatment warrants further use.

While work and interest in fever therapy are continuing, the complete story regarding it has not been told. Certainly, from the present knowledge of the physiologic reaction of the body as the result of fever, whether artificial or natural, fever therapy seems to be a logical procedure with far reaching possibilities.

It must be borne in mind at all times that fever therapy is not with-

Body temperature of the patient is elevated in this cabinet by a short-wave diathermy induction cable and is maintained by hot humid air. The window has two thicknesses of cellulose acetate glass separated by an air space.



Fever Therapy

out dangers. Even in the hands of a highly trained corps of workers, serious complications can and do occur. Deaths have been reported infrequently. The most serious complications which arise are heat stroke and heat shock. Many other minor complications occur, and the prevention of these requires intelligent technical care as well as constant medical attendance during the time that treatments are being given.

A frequent mistake that is made in administering fever — at first thought apparently a logical measure — is the use of ice water sponging or ice packs to cool the patient, particularly in instances of excessive hyperpyrexia. This is extremely dangerous, and in some cases probably has caused death. It is not physiologically sound, since the peripheral vessels are constricted, the blood is driven into the large abdominal vessels and cooling cannot occur. Tepid sponging should be used and a fan should be applied to the bodily surface to enhance evaporation.

The personnel of the fever therapy department is an important part of the whole procedure. Its relative value is almost as great as that of the personnel of the operating room. The technicians should be well-

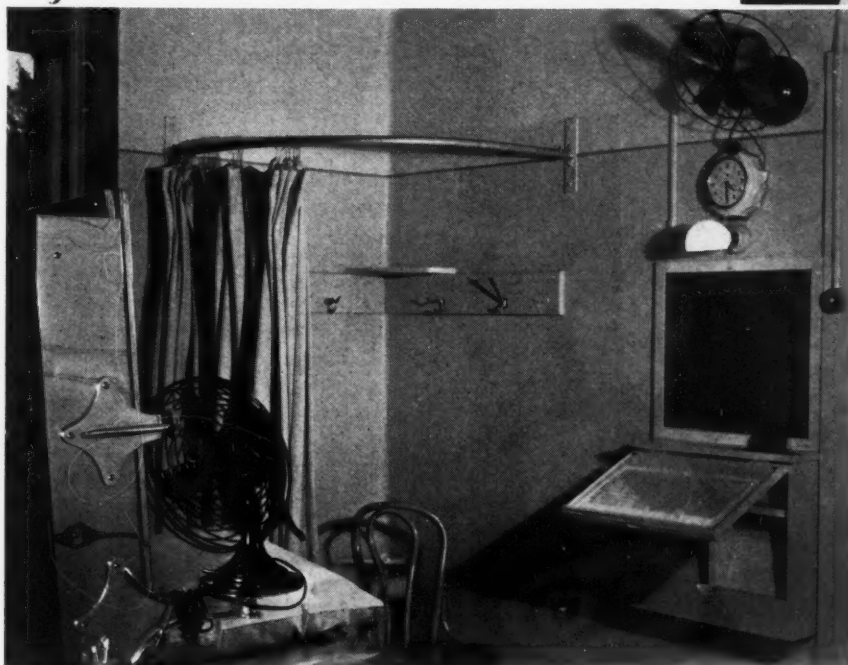
trained registered nurses, who have been trained at least one month or six weeks in a qualified fever therapy department or under the close supervision of some person who has had such training.

Fever nursing is difficult. Every trained nurse does not have the inherent qualifications to become an efficient fever nurse. She must have tact and poise; she must be patient and tolerant; she must have the ability to handle difficult patients; she must know certain signs and indications of complications and must be trusted to act quickly and with good judgment; she must be con-

Apparatus (right) for administering oxygen carbon dioxide mixture and an emergency table equipped for service.



Fever therapy room, showing head-end of cabinet, dressing booth, chart rack, fan and physicians' call bell.



scientious to the utmost in recording the data concerning the progress of the patient and the treatment.

It has become apparent to experienced administrators of fever treatments that it is necessary to have a second nurse on call regardless of whether there is one fever apparatus or more in operation. This nurse may serve in the capacity of a supervisor or may be a part-time assistant, working in some other department within no more than a few seconds' distance from the fever therapy department.

The necessity for the second nurse arises from the fact that the attending nurse should never leave the patient to go more than a few feet away, and she should never leave the room, because patients at the height of the fever frequently become irrational. Also, there is always the pos-

sibility of sudden collapse, which can occur in a few seconds.

During the treatment, hypodermic medication and intravenous therapy, which require sterilization of needles and syringes, are frequently used and, at times, have to be given quickly. Laundry supplies need to be replenished constantly. Frequently patients become obstreperous and delirious, and even though they are removed from the fever apparatus, they are difficult for one person to handle.

Generally speaking, all treatments require a minimum of five hours; therefore, one meal must be served to the nurse technician, and relief is required for this. In certain cases sustained fever of from eight to twelve hours' duration is administered, re-

quiring from eleven to fourteen hours for the treatment. This is particularly true in cases of gonorrhea. Therefore, if the department is busy and operating daily, two nurse technicians are necessary because as a daily routine such long hours are too strenuous for one person. Here again, two meals must be served, and relief is essential.

The physician in charge of the fever therapy department should have had from three weeks' to one month's training in some qualified fever therapy department. While fever treatments are in session the trained physician or a physician under his close supervision should be in more or less constant attendance; at least, he should never be more than a short distance away and should be able to reach the fever therapy department in a few seconds. At the Mayo Clinic the physician in charge of fever therapy does not leave the department except to go where he may be reached within a few seconds and can return at a moment's notice. All necessary meals are served to him in the department.

There are various devices for the production of artificial fever. The air conditioned cabinet is one of the most recent developments in the field, and most excellent clinical work has been done with it. In these

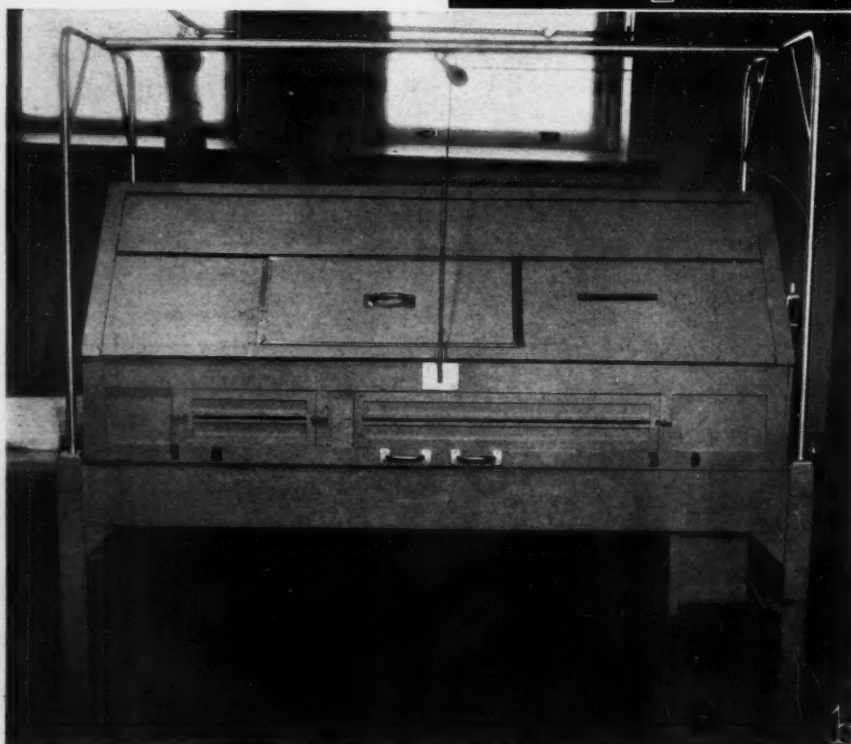
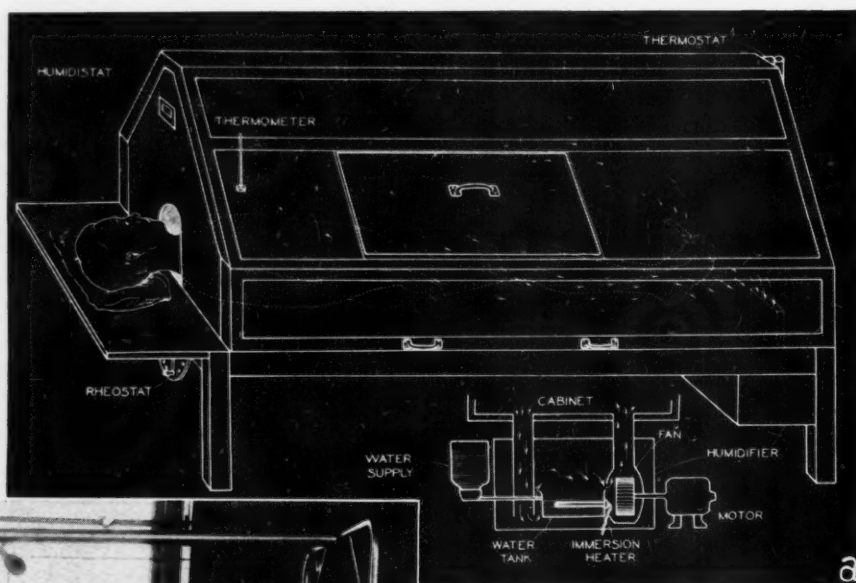
cabinets fever is produced by heated humidified air circulated over the patient. These cabinets are easily controlled and most efficient. However, there are only about seventy of them in use throughout the United States and as yet they are not on the market.

Radiant heat cabinets have proved very satisfactory in the hands of competent investigators. Electric blankets of various kinds have been used. They are satisfactory only in cases in which fevers of from 103° to 104° F. are to be used, but have the disadvantage of being extremely confining for the patient. They are difficult to use for this reason.

High frequency currents have been used since 1929. They also are sat-

isfactory, but when used without a cabinet the same criticism holds for them as for the electric blanket, namely, blankets have to be used to maintain the temperatures and, as these are confining, it is difficult for the patient to take the treatment.

Short-wave diathermy machines have recently become most efficient in the production of artificial fever. These are similar to the conventional diathermy apparatus, with the exception that the oscillations of current are much more rapid. These machines are used to induce the fever, and humidified hot air or radiant heat cabinets are used to maintain the temperature after it has been elevated to desired level. Several diathermy machines are on the market.



Hot spray baths may be used. This is done by placing the nude patient in a horizontal cabinet, similar to the radiant heat cabinet, in which is arranged a series of fine jets of nebulized, very hot water, the temperature of which is controlled by means of a thermostat. Bodily temperatures may be elevated rapidly, but difficulty arises in maintaining the temperature and in having controlled water pressure and temperature.

Hydrotherapeutic methods of administering artificial fever have been

A: Plan of radiant heat cabinet that can be built by any competent hospital engineer or carpenter, showing humidifier, fan and thermostatic control. **B:** Photograph of the completed cabinet.

used since 1883. While hot tub baths are depressing, the bodily temperature may be readily elevated and maintained for an hour or more. Fever can be induced by hot tub baths and maintained by the radiant heat cabinet or blanket packs, as another procedure.

The devices just mentioned for the production of fever do not meet the requirements for the administration of all types of fever therapy. Some of them will not fulfill the requirements of a department in which fevers of 106° to 107° F. for six to ten hours must be administered—a procedure which is most efficient in cases of gonorrhea. It seems, however, from our present knowledge and experience with fever therapy, that any one of the types of apparatus

—such as the humidified air conditioned cabinet, the radiant heat cabinet, the vapor cabinet, or short-wave diathermy in combination with a cabinet—is very satisfactory for all procedures in the administration of fever therapy.

The cost of a fever therapy apparatus varies between \$150 and \$1,500. A very satisfactory radiant heat cabinet can be built by any competent hospital engineer or carpenter for from \$150 to \$250. Plans for these machines have been published by Atsatt and Peterson, and also by Warren. Sheard of the Mayo Clinic further modified these cabinets by adding a humidifier and thermostatic control, which make the cabinets, in our opinion, as satisfactory and usually as easily controlled as

are the air conditioned cabinets.

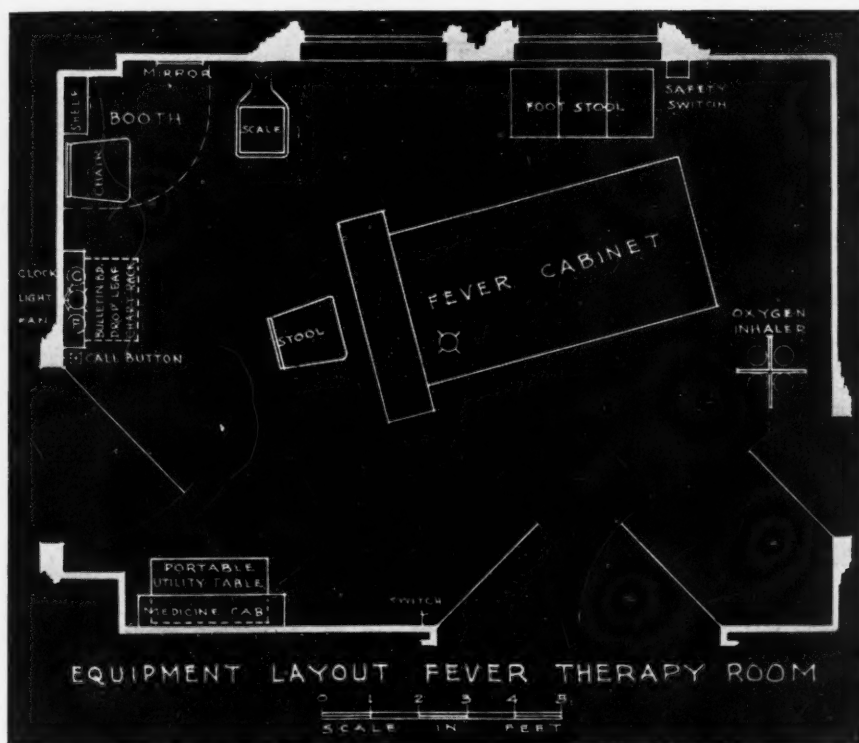
Short-wave diathermy machines with cabinets can be obtained for from \$800 to \$1,200. These machines have the added advantage of a short-wave diathermy machine and an induction cable that can be used for other types of physical therapy when not being used for the induction of fever.

Equipment, other than the fever apparatus, necessary for a fever therapy department includes the following: an ice box, a medicine cabinet, a desk or chart rack, scales, electric fans, sterilizer, oxygen inhaler with small tanks, sphygmomanometer, stethoscope, hypodermic syringes, hypodermic needles, large syringe (50 cc.), intravenous sets, water pitchers, drinking glasses, drinking tubes, wash basins and rectal and oral thermometers.

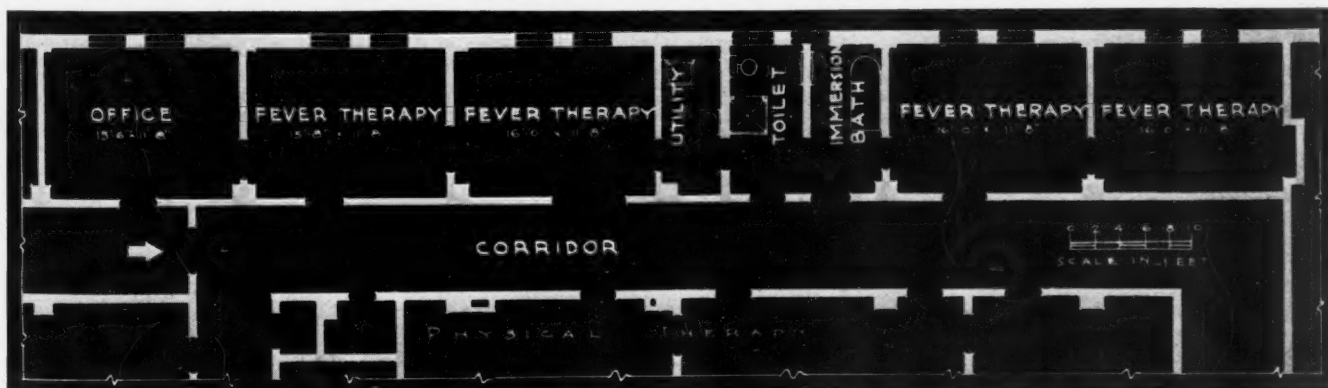
The ice box should be one built especially for the storage of cracked ice, and it should be one from which the ice can be obtained easily. Usually, it needs to be only a chamber, as there is no need of other refrigeration.

A rack or desk upon which to make charts is needed. A shelf built into the wall—of sufficient size to hold a large chart, pen and ink, and of proper height for the user to write upon while standing—requires less room and is more satisfactory.

Electric fans are essential. Some of the fever machines have fans attached to them. During the treatment there should be an electric fan which can be directed on the face of the patient more or less constantly during the time his temperature is elevated. After the patient has been removed from the cabinet, an electric fan is directed on him to hasten the lowering of his bodily temperature.



These drawings give the layout of equipment in a fever therapy room, St. Mary's Hospital, Rochester, Minn., together with the floor plan of entire department.



The oxygen inhaler may be one of the smaller type with tanks of oxygen and carbon dioxide. This apparatus always should be easily available.

Scales are important since, when possible, the patients are weighed before and after the treatment. By this procedure a rough estimate may be made as to whether there has been a sufficient intake of fluids during the treatment.

The intravenous sets may be of the type used in the hospital, but they should be in constant readiness for use in the department.

The sterilizer should be of sufficient size to take care of the small articles necessary in hypodermic and intravenous therapy, drinking tubes and the like.

Drugs Needed in Department

Drugs that should be constantly available in a fever therapy department are: the morphine derivatives, codeine, acetylsalicylic acid, caffeine sodio benzoate, calcium gluconate that is suitable for intravenous and subcutaneous use, physiologic saline solution or a physiologic saline solution which contains 5 to 10 per cent of dextrose, and epinephrine hydrochloride.

The clothing, linen and towels that are necessary for a fever treatment will vary in the departments according to the technique and somewhat with personal opinion. However, nearly all the devices mentioned as being the most satisfactory will require essentially the same laundry supplies.

At the clinic the laundry setup for each treatment consists approximately of the following: one pillow case, two to four turkish towels for the pillows, two to four blankets or pads made of turkish toweling, two hand towels, two wash cloths, one large sheet, one woolen blanket, one pair of trousers made of turkish toweling, one or two pairs of padded boots, one bath robe and paper slippers.

The seatless trousers, which are made of turkish toweling, and the heavy quilted boots are used to protect the extremities from burns. They also make the treatment much more comfortable for the patient. In some departments the lower extremities are wrapped in cotton, but the use

of the trousers and boots seems much more satisfactory, because they are easily applied and can be laundered and used many times. The pads or blankets of turkish toweling are used to cover the trunk of the patient and to protect his skin. The frequent changing of these increases the comfort of the patient and helps to maintain the desired bodily temperature without minute regulation of the machine. Turkish toweling is used because it is absorbent and is much less expensive to launder than heavy cotton or woolen blankets.

Amount of Space Necessary

The space necessary for a fever therapy department will depend upon the number of cabinets to be used, also somewhat on the type of cabinet employed. Each cabinet should be in a room by itself, so arranged that it can be entirely closed off from its surroundings. A room about 10 by 12 feet is necessary to accommodate a machine and all of the apparatus connected with it. The room should be light and airy. Connected with the treatment room or rooms there should be a small utility room and office or a combination of utility room, office and dressing booth. If several rooms are being used, the utility room should be centrally situated and easily accessible. It should contain the sterilizer, the ice box and storage space.

The expense of maintaining a fever therapy department will vary with the individual department. The main items of expense to be considered in estimating the cost of maintenance include: supervision, technicians, laundry, electricity, upkeep of equipment and replacement of supplies. The expense of supervision will depend on whether the department is large enough to support a full-time supervisor of technicians or only the second nurse or individual who can be called on to assist the fever technician and who can be performing part-time duties elsewhere in the institution. In some departments the nurse technician is not paid by the institution but is paid by the patient. She is called from a list, as is the case with the special nurse.

The cost of laundry, of course, will depend on the facilities and the usual cost of laundry in a particular in-

stitution. The approximate cost will probably be between \$1 and \$2 per treatment. Electricity is a minor expense and will probably not amount to more than \$0.25 for each treatment. The repair and upkeep of the machines ordinarily will not be large. It is necessary to make minor electric adjustments and occasionally some minor repair of the motors, fans, thermostats, humidistats or of the diathermy machine, if this is used.

There are at the present time about 100 fever therapy departments in the hospitals of the United States. It is best that fever therapy should be administered in hospitals, since it always should be an institutional rather than an office procedure.

It certainly seems that, with the investigation already done and with the constant research work in progress, fever therapy departments in institutions are justifiable from a remunerative standpoint. Undoubtedly, fever therapy departments will not realize so much as they would have before the advent of sulfanilamide in the treatment of gonorrhea, because the other diseases for which fever therapy seems more or less specific are not so common as is gonorrhea. It seems reasonable, however, that a fever therapy department can easily pay for its original cost and maintain itself when used for several years.

In conclusion, it may be said that (1) the possibilities of fever therapy as an important therapeutic adjunct have not been exhausted, and in at least five common diseases it seems more or less definitely indicated; (2) it has distinct dangers; (3) the personnel should be well trained and there should be a physician experienced in this work in attendance whenever a treatment is being administered; (4) there should always be a second person assisting the nurse technician; (5) there are several types of fever machines on the market, and also very satisfactory fever machines can be made by the hospital mechanics for a nominal sum; (6) equipment and supplies other than the fever machines are not elaborate and are relatively inexpensive; (7) space should be sufficient to accommodate conveniently the machines and other necessary equipment; (8) maintenance expense, such as laundry, will vary.

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PLANS AND EQUIPMENT

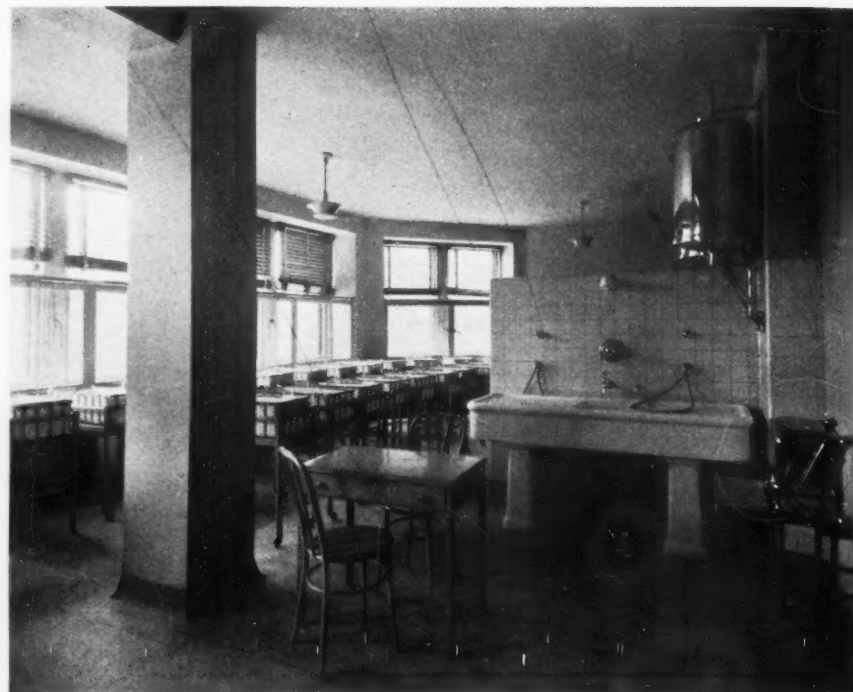
Layout for Lying-In

PERHAPS the most important consideration in planning the maternity department is the need for proper segregation to minimize the dangers of infection; this is particularly true when the department is part of a general hospital or is connected with gynecology. Some obstetricians place less emphasis than others upon this need, but there can be no question of the desirability of making the department a self-contained unit, which may or may not be completely separated from the rest of the hospital.

In the several buildings illustrated herewith the expectant mother upon arrival at the hospital is assigned to a private room or to a ward. For the period of labor, she occupies a special room in a group adjacent to the delivery rooms. In order that convalescing patients will not be disturbed, the labor and delivery quarters are placed entirely by themselves, either in a separate wing or on another floor.

Associated with the labor rooms there should be a preparation room with showers, an ample utility room, a nurses' station, and, since food must often be served during prolonged labor periods, a diet kitchen. Each labor room requires a wash basin and clothes closet. It is advisable that the delivery rooms open on to a corridor that is separated from the labor rooms by doors. A sterilizing room and a wash-up room should be provided for every two delivery rooms and a septic delivery room with its own sterilizing and wash-up room is a necessity. As in general operating rooms, north light proves best for delivery rooms.

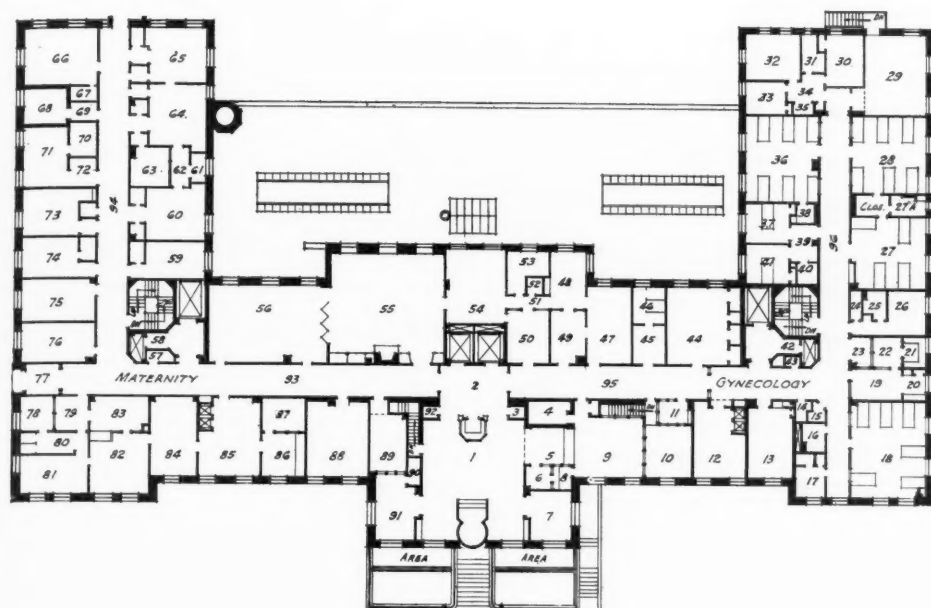
The delivery wing needs an ample workroom, a nurses' room, an instrument room, a linen room, a stretcher room and a small laboratory. Other requisites in this section are waiting rooms, locker and toilet rooms, shower baths and dressing rooms for both men and women doctors. There should be sleeping quarters for doctors on night duty. One delivery



Two views of the equipment in the Woman's Hospital, Detroit, showing the nursery with sink for bathing (top of page) and one of the utility rooms.

room, if possible, should have provisions for student spectators. An excellent arrangement is a gallery separated from the delivery room by a plate glass partition with sufficient opening at the ceiling to make audible the remarks addressed to the students by attending physicians.

Essential in connection with the delivery room and labor room wings, yet too often overlooked, is a comfortable waiting room for husbands and family members. This is best placed between the delivery and labor room sections. It should be furnished with a telephone and toilet.

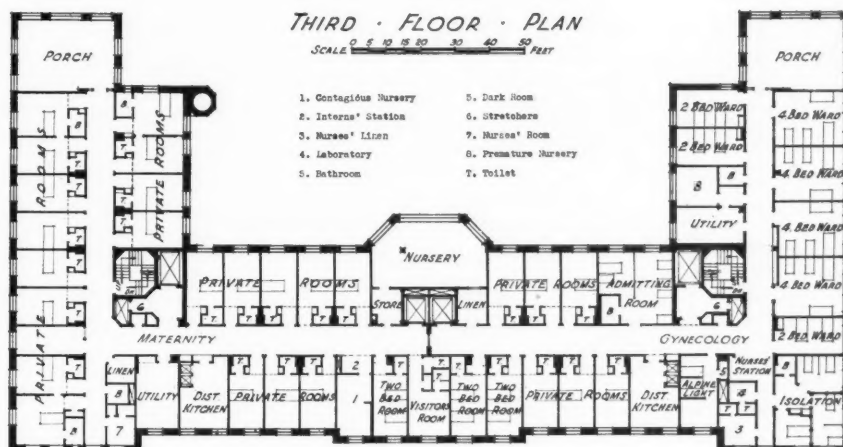


FIRST FLOOR PLAN
SCALE 0 5 10 15 20 30 40 50 FEET

- 1 LOBBY
- 2 ELEVATOR LOBBY
- 3 TELEPHONE
- 4 VAULT
- 5 ADMITTING RM
- 6 PUBLIC
- 7 WAITING ROOM
- 8 CASHIER
- 9 BOOKKEEPERS
- 10 RECORD CLERK
- 11 TELEPHONE RM
- 12 KITCHEN
- 13 UTILITY RM
- 14 TOILET
- 15 LINEN
- 16 BATH
- 17 NURSES ROOM
- 18 G BED WARD
- 19 NURSES STATION
- 20 MEDICINE
- 21 LABORATORY
- 22 INTERNE
- 23 WAITING ROOM
- 24 TOILET
- 25 BATH
- 26 ADMITTING RM
- 27 4 BED WARD
- 28 6 BED WARD
- 29 PORCH
- 30 BED ROOM
- 31 BATH
- 32 LIVING ROOM
- 33 BED ROOM
- 34 HALL
- 35 CLOSET
- 36 G BED WARD
- 37 ISOLATION B.R.
- 38 UTILITY
- 39 HALL
- 40 BATH
- 41 ISOLATION B.R.
- 42 STRETCHERS
- 43 JANITORS CLOS.
- 44 STAFF ROOM
- 45 LOCKERS
- 46 TOILET
- 47 SUIT OF NURSES
- 48 STENOGRAPHER
- 49 INSTRUCTORS
- 50 WAITING RM
- 51 PASSAGE
- 52 TOILET
- 53 REST ROOM
- 54 SUPERINTENDENT
- 55 BOARD ROOM
- 56 UNASSIGNED
- 57 JANITORS CLOS.
- 58 STRETCHERS
- 59 COLORED WAITING R.
- 60 OSTEOLOGICAL RM
- 61 TRANSFORMER
- 62 CONTROL RM
- 63 DARK RM
- 64 PLATE RM
- 65 FLUOROSCOPIC RM
- 66 DIAGNOSTIC RM
- 67 TOILET
- 68 STORAGE
- 69 LINEN
- 70 TRANSFORMER
- 71 DEEP THERAPY
- 72 CONTROL RM
- 73 FRACTURE RM
- 74 WHITE WAITING R.
- 75 PHYSIO THERAPY
- 76 CIRCUMCISION
- 77 VESTIBULE
- 78 NURSERY
- 79 WAITING RM
- 80 REST ROOM
- 81 MILK EXPRESSING
- 82 PASTEURIZING RM
- 83 OFFICE
- 84 BOTTLE WASHING
- 85 FORMULA RM
- 86 MILK LAB
- 87 DRYING RM
- 88 LIBRARY
- 89 PRIVATE WAITING R.
- 90 TOILET
- 91 WAITING RM
- 92 TELEPHONE
- 93 CORRIDOR
- 94, 95, 96 CORRIDORS

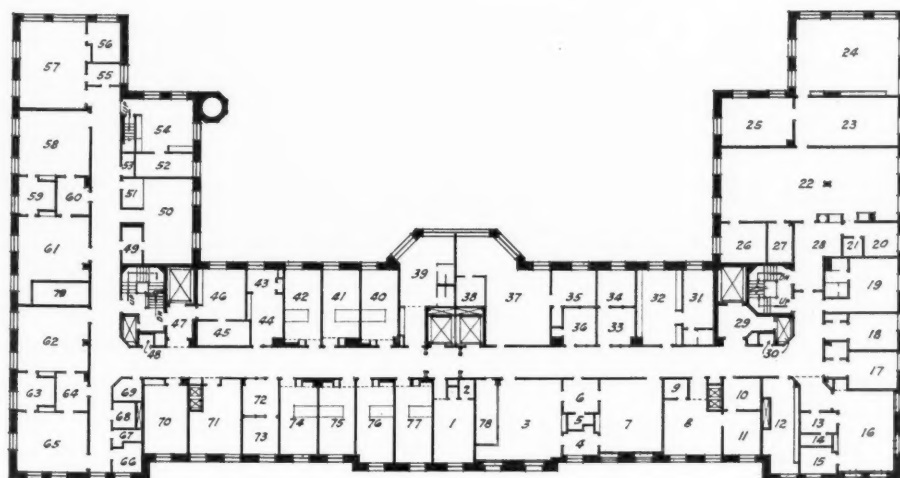
THE WOMAN'S HOSPITAL
DETROIT, MICHIGAN

Arrangement of three floors of the Woman's Hospital, Detroit, a maternity hospital designed by Albert Kahn, Inc. So-called fireproof construction is imperative. Exclusion of sound and noise is particularly important, and acoustical treatment of ceilings at least is advisable.



THIRD FLOOR PLAN
SCALE 0 5 10 15 20 30 40 50 FEET

1. Contagious Nursery
2. Interns' Station
3. Nurses' Linen
4. Laboratory
5. Bathroom
6. Dark Room
7. Stretches
8. Nurses' Room
9. Premature Nursery
10. Toilet



FIFTH FLOOR PLAN
SCALE 0 5 10 15 20 30 40 50 FEET

- 1 VISITORS RM
- 2 TOILET
- 3 OPERATING
- 4 STERILIZING
- 5 EQUIPMENT
- 6 WASH UP
- 7 OPERATING
- 8 EYE, EAR, NOSE AND THROAT
- 9 WASH UP
- 10
- 11 OPERATING
- 12 INSTRUMENTS
- 13 WASH UP
- 14 STERILIZERS
- 15 STERILIZING
- 16 OPERATING
- 17 ANAESTHETIC
- 18 RECOVERY
- 19 WOMEN DOCTORS' LOCKER ROOM
- 20 PATIENTS RM
- 21 TOILET
- 22 GENERAL WORK RM
- 23 PATHOLOGIC TECHNIC AND FILING
- 24 DIAGNOSTIC LIBRARY AND FILING
- 25 RESEARCH ROOM
- 26 WORK ROOM
- 27 STORE ROOM
- 28 WAITING ROOM
- 29 STRETCHERS
- 30 JANITORS CLOS.
- 31 TOILET
- 32 MEN DOCTORS' LOCKER ROOM
- 33 OFFICE
- 34 STENOGRAPHER
- 35 NURSES ROOM
- 36 SUPERVISOR
- 37 WORK ROOM
- 38 STERILIZERS
- 39 PREPARATION RM
- 40 LABOR
- 41
- 42
- 43 MEDICINE
- 44 NURSES STATION
- 45 TOILET
- 46 MEN DOCTORS' LOCKER RM
- 47 ELEVATOR LOBBY
- 48 JANITORS CLOSET
- 49 INSTRUMENTS
- 50 WORK ROOM
- 51 STERILIZERS
- 52 TOILET
- 53 CLOSET
- 54 WOMEN DOCTORS' LOCKER RM
- 55 WASH UP
- 56 STERILIZING
- 57 SEPTIC DELIVERY
- 58 DELIVERY
- 59 STERILIZING
- 60 WASH UP
- 61 DELIVERY
- 62
- 63 STERILIZING
- 64 WASH UP
- 65 DELIVERY
- 66 LABORATORY
- 67 TOILET
- 68 LINEN
- 69 STRETCHERS
- 70 UTILITY
- 71 DIST KITCHEN
- 72 OFFICE
- 73 STENOGRAPHER
- 74 LABOR
- 75
- 76
- 77
- 78 SEATS
- 79

THE WOMAN'S HOSPITAL
DETROIT, MICHIGAN

In arranging the patients' floors, it is advisable that the private rooms be on a floor separate from the wards, because service will thus be simplified. On the ward floor an admitting room with bath and toilet is very desirable. No ward ought to contain more than four beds, and there should be several two and three-bed rooms. Each ward requires individual clothes lockers for the patients and a wash basin conveniently located for the nurses' use. It is best that the beds be separated from one another by screens.

A nurses' station, preferably behind a glazed partition, should be placed as centrally as possible and in a position to facilitate supervision of the entire floor. A nurses' rest room with toilet should be placed near by. A station for the interns is essential.

Planning Private Rooms

The private patients' wing differs from the ward floor principally in the use of single bedrooms. Whenever possible, each room should be supplied with a wardrobe and with a private toilet containing a wash basin and water closet. The latter will also serve as a bedpan cleaner. Ten feet 6 inches by 15 feet has proved to be a satisfactory size for single rooms. Frequently several rooms are equipped with private baths; but many superintendents consider them unnecessary, as tub baths are not often used by the patients. One or more separate bathrooms are considered preferable.

On each of the patients' floors, there should be storage rooms for stretchers, janitors' closets, blanket warmers and linen rooms and also a laundry chute accessible from the corridor. Sun rooms or porches are desirable but not essential, since the patients remain only a limited period in the hospital. Near the elevators on each of these floors there should be a visitors' room, provided with a telephone booth and toilet. The various floors, of course, must have their own distributing kitchens with dumb-waiters served from the central kitchen.

Each floor requires its own nursery with adjoining infants' wash-up room. The nursery should be so located that it receives ample southern exposure, and it ought to have

a good sized window facing the main corridor to afford visitors a view of the bassinets. It is advisable that the entrance to the regular nursery be through a vestibule which also leads to the premature nursery. In addition, a separate nursery for communicable disease cases is necessary. To guard against drafts, all nurseries must be equipped with double sash at outside windows.

Every maternity hospital should have a group of rooms for cases requiring isolation. These should open off a private corridor and have a separate utility room. Each room in these quarters needs a wash basin and clothes closet.

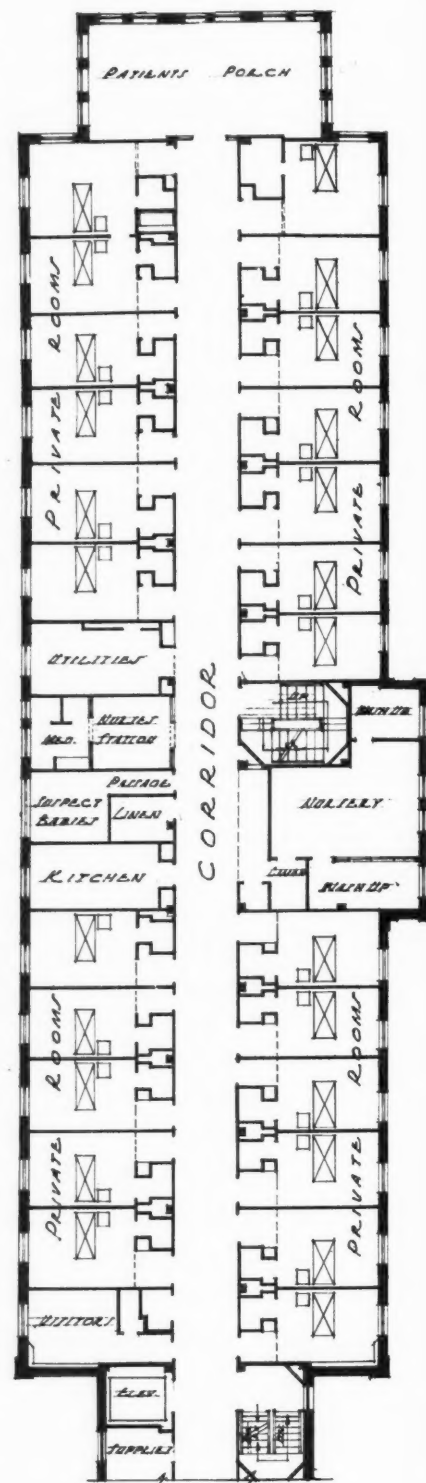
The admitting floor differs in few respects from that of a general hospital. It is ordinarily the first floor and requires a main lobby with one or more waiting rooms adjoining. The admitting room should open on to the bookkeeper's space. Connected with the cashier's cage it is useful to have a private room in which to discuss rates and other such matters. Pay telephone booths directly off the lobby are necessary.

The administrator's office, with perhaps a private rest room and toilet, should be conveniently placed, but not too accessible to the public. Other requisites on this floor are rooms for the superintendent of nurses, record and stenographers' rooms, perhaps a board room and a staff room with lockers and private toilet. A telephone switchboard placed near the staff room simplifies keeping in touch with visiting doctors.

A convenient private entrance from outside should lead to the necessary rooms for the collecting, pasteurizing and bottling of mothers' milk. There should also be a formula room with milk laboratory and drying room. Other rooms for prenatal advice and care are usually necessary near the doctors' offices.

On the ground floor there must be the ambulance entrance with adjacent receiving room, both near the patients' elevator; locker rooms with toilets for female and male attendants; locker room and toilet for outside nurses, and additional facilities for colored help.

The main kitchen with its bake shop, storage rooms and refrigerator



SECOND FLOOR PLAN

Scale 1" = 10'

In a general hospital the layout of the maternity department requires considerable study. Here are shown the maternity floors of Youngstown Hospital, Youngstown, Ohio. An essential often overlooked is a station for interns, near the labor rooms, shown on the third floor plan on the opposite page.

rooms, all properly ventilated by mechanical means, is usually best located on this floor. Near by should be the dietitian's office. Separate service kitchens are generally placed directly below distributing kitchens.

Most administrators prefer to have a general sterilizing and dressings

preparation room for treatment trays on this floor. In addition to these quarters, there must be the main dining room for the nurses, and other dining rooms for the medical staff, for the interns, for additional employees and for visitors. Cafeteria service supplied directly from the main kitchen is the customary procedure.

Other essentials on the ground floor are general storage rooms, a repair shop, pharmacy, linen storage and adjacent sewing room, and a receiving room for all incoming materials. Adjoining this last room there should be a receiving clerk's office. A root cellar, with a small lift, directly under the receiving room is highly desirable. There must also be an incinerator room for burning dressings and waste rather than garbage. The latter is best handled by providing a refrigerator for its daily accumulation. A morgue and necropsy room must be located within easy approach to an outside door and out of sight of the patients.

Students' class, demonstration and lecture rooms, which are often required, are best placed on either the ground or first floor, if a separate wing is not available.

As in any type of hospital, the location of elevators and stairs in the maternity department is extremely important. Both patients' and visitors' elevators, preferably separated, are necessary. The patients' elevator should have a vestibule sufficiently large to accommodate a stretcher. The visitors' elevator, naturally, should be conveniently accessible from the main lobby. Double walls around all elevator shafts are needed to prevent noise. Since stairs are used mainly for interfloor service, they should occupy space least desirable for other activities. The stairs must, of course, be in fire towers with fire doors as specified by building codes.

The laundry and heating rooms are often placed in a separate building, but if they are amply ventilated and acoustically controlled, there is no objection to having them in the hospital building proper. When the heating room is in the main building, care must be taken to insulate the ceiling; otherwise the rooms above will prove uncomfortable. Naturally,

provision must be made for storing coal and disposing of ashes.

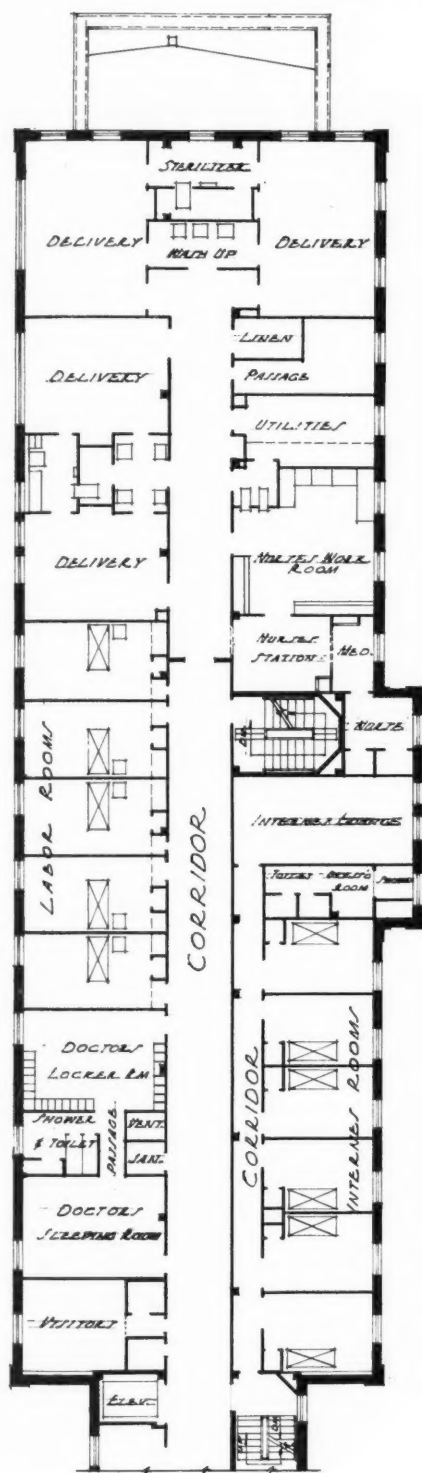
The type of construction to be employed is governed by the particular locality in which the hospital is to be built. So-called fireproof construction is imperative. In many sections reinforced concrete proves economically the most desirable material. In others, a steel frame, fireproofed with tile or concrete, with either reinforced concrete or steel joist floor construction, is more advantageous. When steel joists are used, a thin concrete floor slab is placed on top, while a plaster ceiling with metal lath covers the bottom of the joists. One advantage in the use of steel joists is that many spaces are made available for the passage of pipes and conduits. With either type of construction, the exterior walls are of masonry.

For interior walls pressed brick or cinder blocks are particularly serviceable, since these when plastered on both sides make partitions quite soundproof. As the exclusion of sound or noise is particularly important in the maternity hospital, acoustical treatment of the ceilings at least is advisable. If this cannot be had for all rooms, it certainly should be provided in corridors, wards, dining rooms and other places in which noises are most likely to occur.

Air Conditioning Desirable

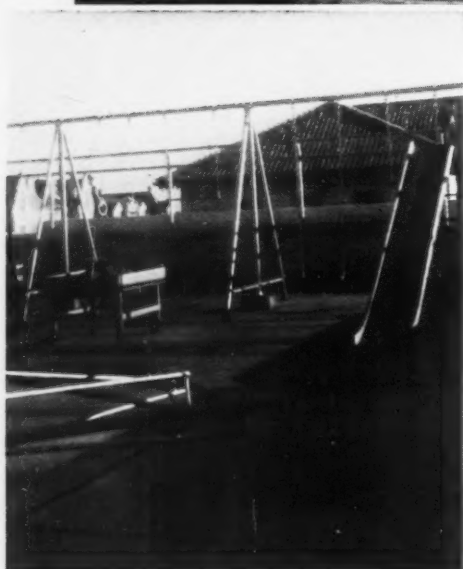
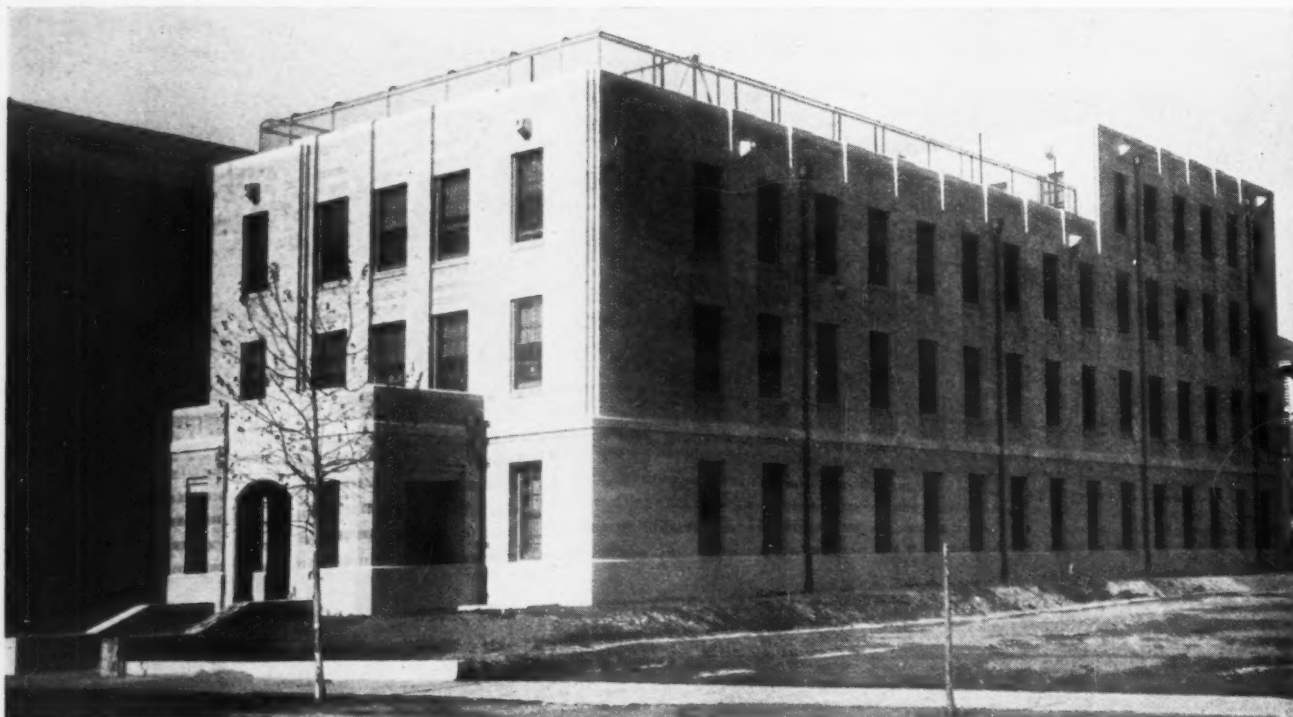
One feature worth mentioning as particularly desirable for the maternity department is air conditioning. The introduction of cooled air during the hot weather is a boon that no modern hospital should neglect to provide for the comfort not only of its patients but also of those attending them. When sunken wells with water below 50° F. are available, the cost of air cooling is relatively small.

An attractive interior is particularly important, because of its beneficial effect on the patient. All rooms should be light and cheerful. Pleasant color schemes and simple furnishings carefully and tastefully selected help to produce an atmosphere of comfort and well being. There should be as little reflection as possible of the buildings' institutional character. The atmosphere of the home should be supplied instead.



THIRD FLOOR PLAN

SCALE
1 2 3



LUCIUS R. WILSON

THE new Hospital for Crippled and Deformed Children, Galveston, Tex., is located on the plot of ground set aside for the future development of the John Sealy Hospital. For this reason a rectangular building was selected as the children's unit of the new John Sealy Hospital. The out-patient building, containing classrooms, laboratories and the out-patient department, was erected in 1931 as the western unit of the future John Sealy Hospital. Adjacent to it is the new children's

building. This unit will be followed by medical and surgical units, with the private pavilion on the east end.

This plan will permit units to be erected in a systematic manner, as funds become available and will offer the advantages of having the out-patient department and teaching wards removed from the accommodations for private patients.

The building faces south with the north end located on what is now considered the building line of the cross bar of the future John Sealy Hospital. There is adequate space on the west and east sides for sunlight and ventilation.

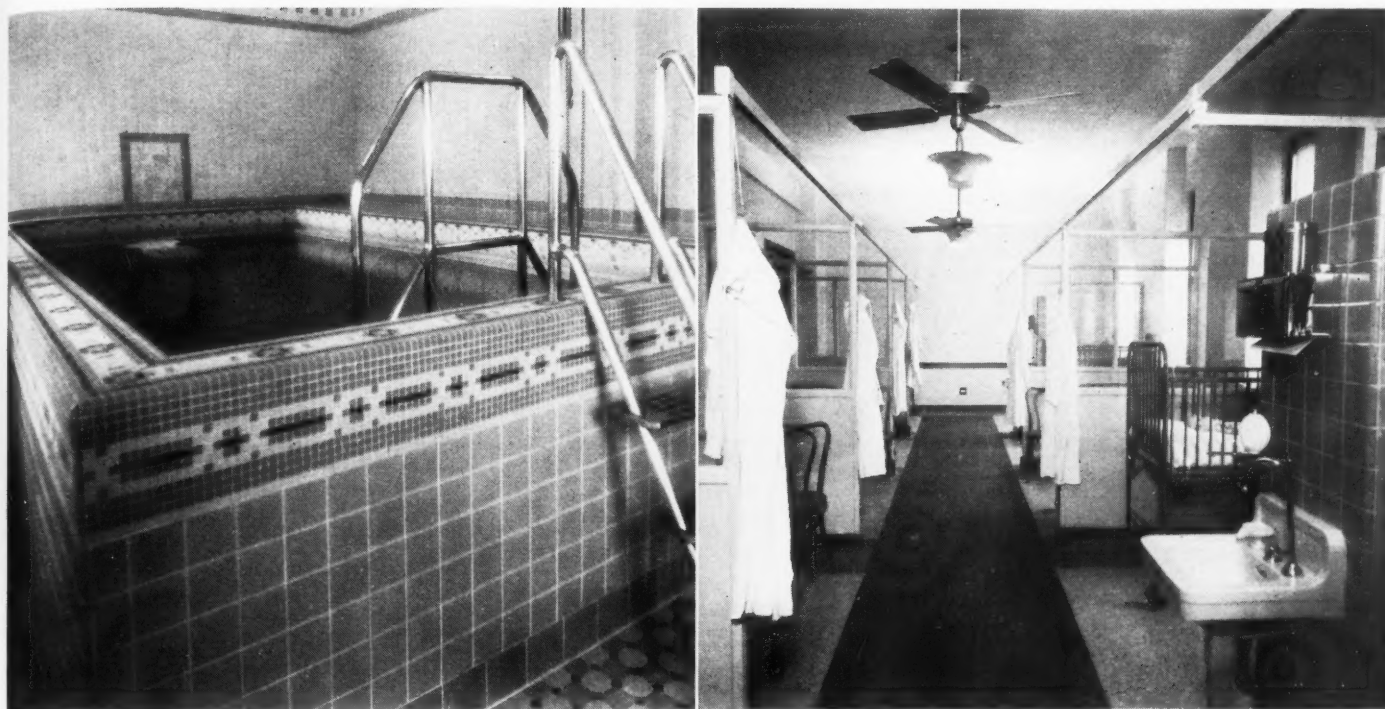
The hospital is three stories over all with a large enclosed playroom, making a fourth story on the north portion of the building. Piling was used for the foundation with sufficient carrying power for two more stories on the building. The columns were also designed for this extra load when it becomes necessary to enlarge the building. An arcade connects with the arcade extending from

the present John Sealy Hospital to the out-patient building. This offers a connecting corridor with the present buildings and serves to carry all water, steam and electrical lines.

The first floor is devoted chiefly to special service units, such as the brace shop, therapeutic pool, space for physiotherapy and school room. The only provision for patients on this floor is the nine-bed admitting ward in which it is planned to care for newly admitted children for five to seven days before transferring them to the wards on the upper floors. By this arrangement the first floor presents a physical barrier to visitors and will be of real service in visitor control, enabling the nurses to see that parents are properly gowned and unaccompanied by children before arriving on the division where their child is a patient.

The admitting ward is arranged in cubicles and wash basins are located near every cubicle so that strict isolation technique may be observed. The water control to all wash basins

Galveston's Unit for



Crippled Children

in the building is unique in that the valve is operated by a foot lever with slight pressure on this lever emitting a stream of cold water from the faucet. More pressure gives a mixture of hot and cold water so that warm water is emitted. Full pressure gives a stream of hot water. Each wash basin is equipped with a liquid soap dispenser with elbow control so that contamination is avoided. A completely equipped treatment room is adjacent to the admitting ward and all treatments are performed there instead of in the ward.

Many of the children admitted to this hospital have never attended

Four views of the new Hospital for Crippled and Deformed Children. The exterior views show the roof playground, nearly half enclosed. On this page are shown the beautifully tiled therapeutic pool, and a glimpse of the admitting ward, the only unit on the first floor devoted to the care of patients.

school because of their deformities. Two fully accredited school teachers are a part of the personnel. One teacher gives bedside instruction to those children who cannot be moved, and the other conducts classes in the schoolroom, which is equipped with especially designed desks and seats. Regulation textbooks are lent the hospital by the Galveston public school system.

The therapeutic pool is equipped with a circulator, purifier and heater. When the circulator is in operation an amount of water equal to the capacity of the pool is circulated through the chlorine purifier every eight hours. In addition to this a quantity of fresh water constantly runs into the pool so that the surface water overflows into the scum gutter. The pool is emptied and cleaned every seven to fourteen days, according to the frequency of its use. As the water circulates it also passes through a heater, which raises the temperature to the desired warmth. The depth of the pool varies from

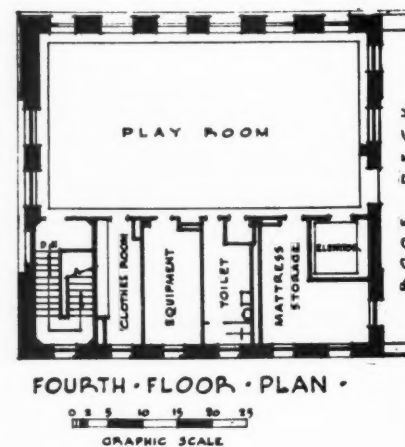
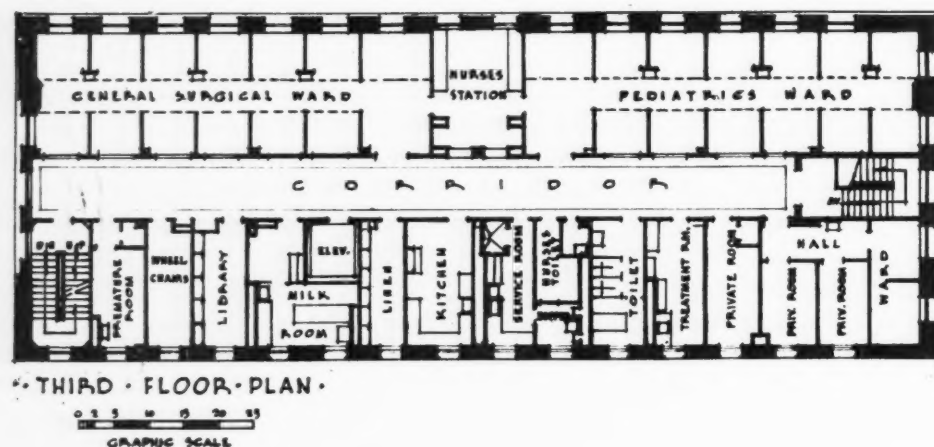
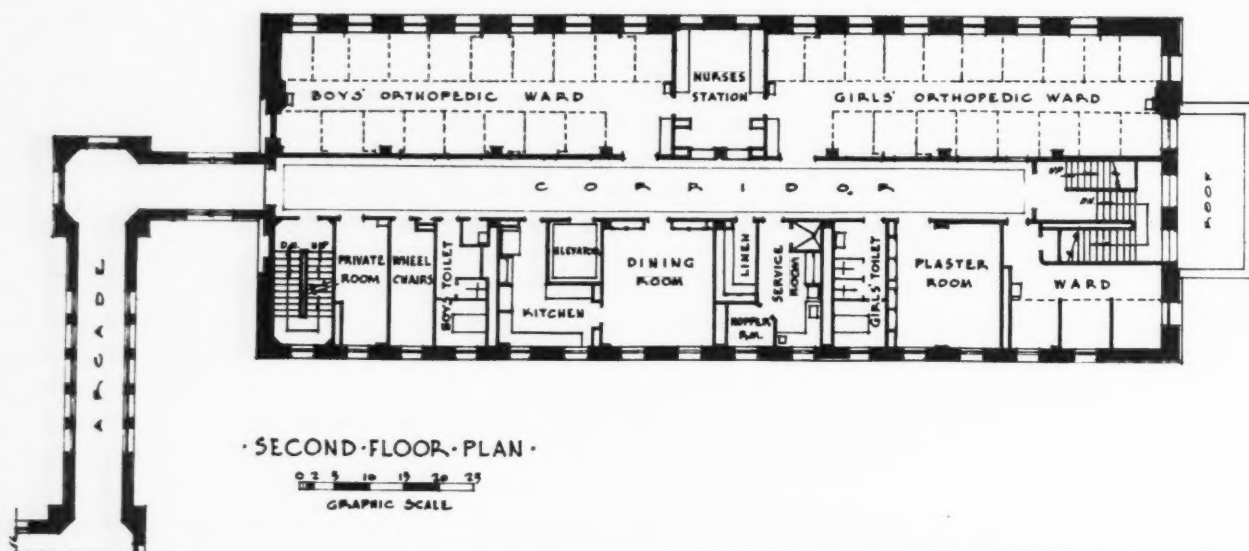
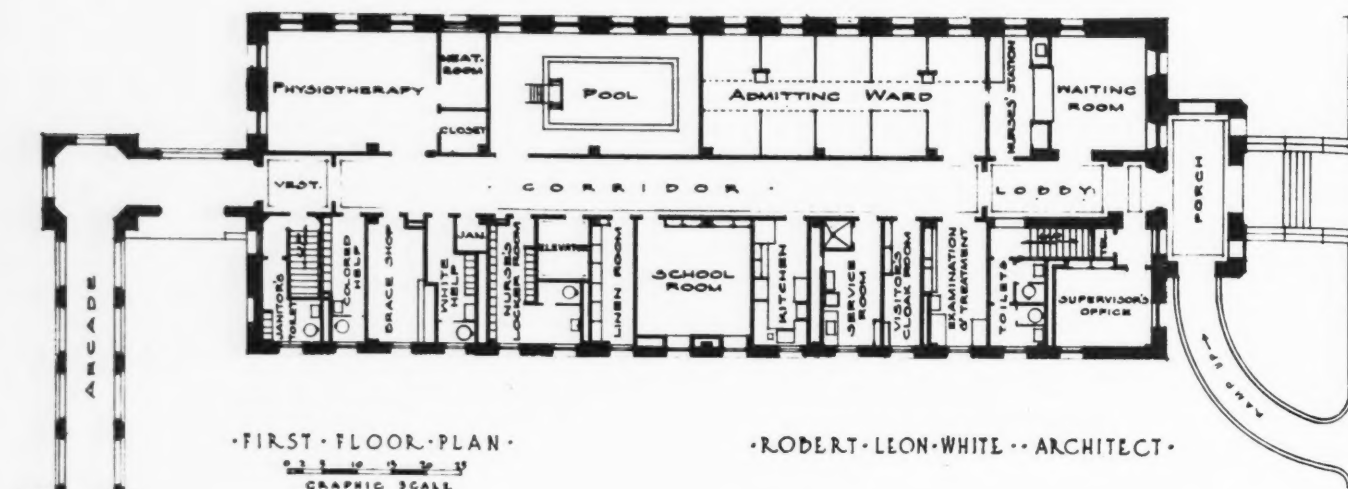
30 to 48 inches. It was decided to have the sides of the pool above the room floor rather than beneath it. This enables the therapist, when there is no necessity for her to be in the pool, to care for children by reaching over the wall without stooping.

The room adjacent to the pool is reserved for other physiotherapy equipment, which will be installed at a later date.

Other units on the first floor include the lobby, supervisor's office, visitors' toilets, cloak room where visitors leave their wraps and are given smocks to wear before visiting patients, and locker rooms for nurses, maids and janitors.

The second floor is devoted to the care of orthopedic patients. It consists of an eighteen-bed ward for boys, another of the same capacity for girls, a three-bed cubicle room and a single room. The last two units will be used to care for patients newly operated upon and other patients who need to be segregated temporarily. The wards are large, light and well ventilated. Inasmuch as these patients do not have communicable diseases, cubicles were not considered necessary. Curtains were installed for use during treatments.

An especially designed illuminator for x-ray films was built in the wall



Modern Layout for Care of Crippled Child

Fitting into the program of the future John Sealy Hospital, Galveston, is the new children's unit designed by Robert Leon White. An out-patient building was erected in 1931. Then came the children's unit. Next in line will be the medical and surgical units, with a private pavilion. The children's building is three stories over all with a large enclosed playroom making a fourth story. The foundation has sufficient carrying power for two more stories when enlargement becomes necessary. There is adequate space on the east and west sides for ventilation.

at each end of the ward. It contains compartments in which films are placed after viewing, awaiting their return to the x-ray department for permanent storing. Each ward contains a built-in table for medical students to use when working on patients' histories.

The nurses' station separates the two large wards. Partitions of glass permit the nurses, while in the station, to have a full view of either ward. The nurses' work desks are built in and beneath the top of the desk are compartments for storing patients' histories. Each compartment contains a rack mounted on rollers in which the records are kept in a staggered position. When the rack is pulled from the compartment the names on each history are plainly visible. Other features in the nurses' station include the medicine cabinet, with a steel vault for narcotics, and supply cabinets.

Near the wards is a dining room in which the children not confined to bed eat their meals. Between meals it is used as a playroom.

A plaster room, thoroughly equipped, is also located on this floor.

Special attention was given to the problem of handling linen in an effort to curtail its loss. The linen storage rooms are located near the nurses' stations and are kept locked when linen is not being issued or received. There is a linen cart for each linen room. These carts contain shelves on which clean linen is stacked to be taken to the wards for routine daily bed making. At each end of the cart is a large canvas bag in which soiled linen is placed. After the beds have been made surplus clean linen is returned to the linen room and the bags of soiled linen are taken to the soiled linen closets to be emptied into the closet through a slot in the door.

The soiled linen closets have tile walls and floors and hot water faucets with hose connection for cleaning. The doors are always locked except when the linen is collected to be sent to the laundry. Linen from patients with communicable disease is handled with isolation technique and not mixed with other linen.

The third floor was planned for the care of general surgical and pediatric cases. It contains two thir-

teen-bed wards, three single rooms and one two-bed room. The two-bed room and the wards contain cubicles. Each have the same wash basin facilities as the admitting ward.

The milk room and premature baby nursery are located on this

Corner of brace shop (right) and nurses' station (below). Notice the rack beneath the table for patients' records.



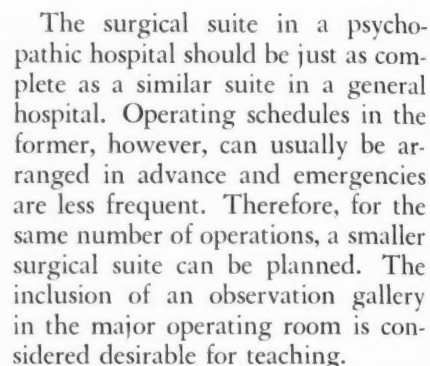
Tile floors and wainscoting are used in the nurses' service rooms (above), in kitchens, baths and treatment rooms.

play is supervised by an attendant.

The building is of fireproof construction. All walls are constructed of hollow tile. The floors are concrete covered with rubber and linoleum where soft and quiet floors are required. Tile floors and wainscoting were used in kitchens, service rooms, treatment rooms and bathrooms. The floor and entire wall of the therapy pool room are covered with tile to prevent damage from moisture condensation. Terrazzo borders and bases were used in the wards, patients' rooms and corridors.

Patients' beds in the wards rest on terrazzo and inlaid linoleum was installed in the aisles for quiet and foot comfort. Acoustical plaster was used when sound absorption was indicated. Because of the corrosive qualities of the Galveston atmosphere, white metal hardware and electrical fixtures were used and chromium plated plumbing fixtures were installed. Night lights were used in all corridors, wards and patients' rooms. Marble window sills were used since previous experience had taught us that they were less expensive than wooden sills with the perpetual expense of refinishing them. All doors and wood trim are of birch. Other materials were selected with much consideration given to ease of maintenance and durability. Colors were used freely throughout the rooms.

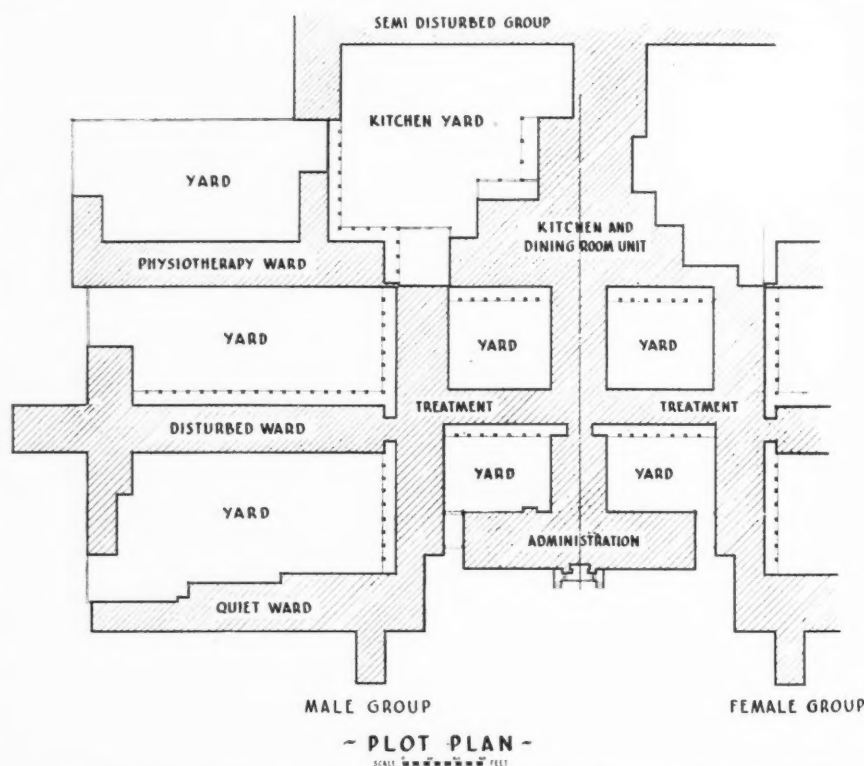
The hospital has been in use only a few months and its usefulness has exceeded our expectations.



In planning the new Camarillo State Hospital in Ventura County, California, these principles were followed with good effect. This insti-

Receiving of patients should be arranged so that as far as possible disagreeable sights sometimes attendant upon this act will be eliminated or at least not viewed by other patients. This may be accomplished if the entrance is in a covered enclosed area-way.

The psychopathic unit is the proper place to locate the hospital for sick and surgical cases since it is today considered essential that all new admissions receive, in addition to the usual psychiatric study, a careful physical examination such as is given



Presenting plans of the new Camarillo State Hospital, Ventura County, Calif., designed by State Architect McDougall. A full page view of the group of buildings introduces this section on plans and equipment. (See page 49.)

In planning these rooms, especially those for the laboratories, consideration should be given to the needs for future research activities.

tution, located 56 miles north of Los Angeles, has been in course of construction since 1933 and now has a population of about 1,300 patients. Ward buildings now nearing completion will bring the number up to about 2,400. It is laid out on the basis of a master plan which provides for a total ultimate normal popula-

for Psychopathic Patients

tion of somewhat over 6,000 patients. The first structures built were a ward group for housing 2,400 male patients of the custodial type; corresponding to them, there will be on the opposite (north) side of the main axis of the institution, a group of structures for about 2,100 custodial female patients.

Directly across the main axis to the east and at right angles to the custodial groups will be the psychopathic division which will have a capacity of about 500 beds—200 of each sex on the first floor and 50 of each sex in the general hospital unit.

There will be an additional group still further to the east in which will be housed, in separate units, 1,000 semidisturbed, infirm and tuberculous patients.

The attendants' quarters and physicians' residences are being located on an entirely separate but not too remote area.

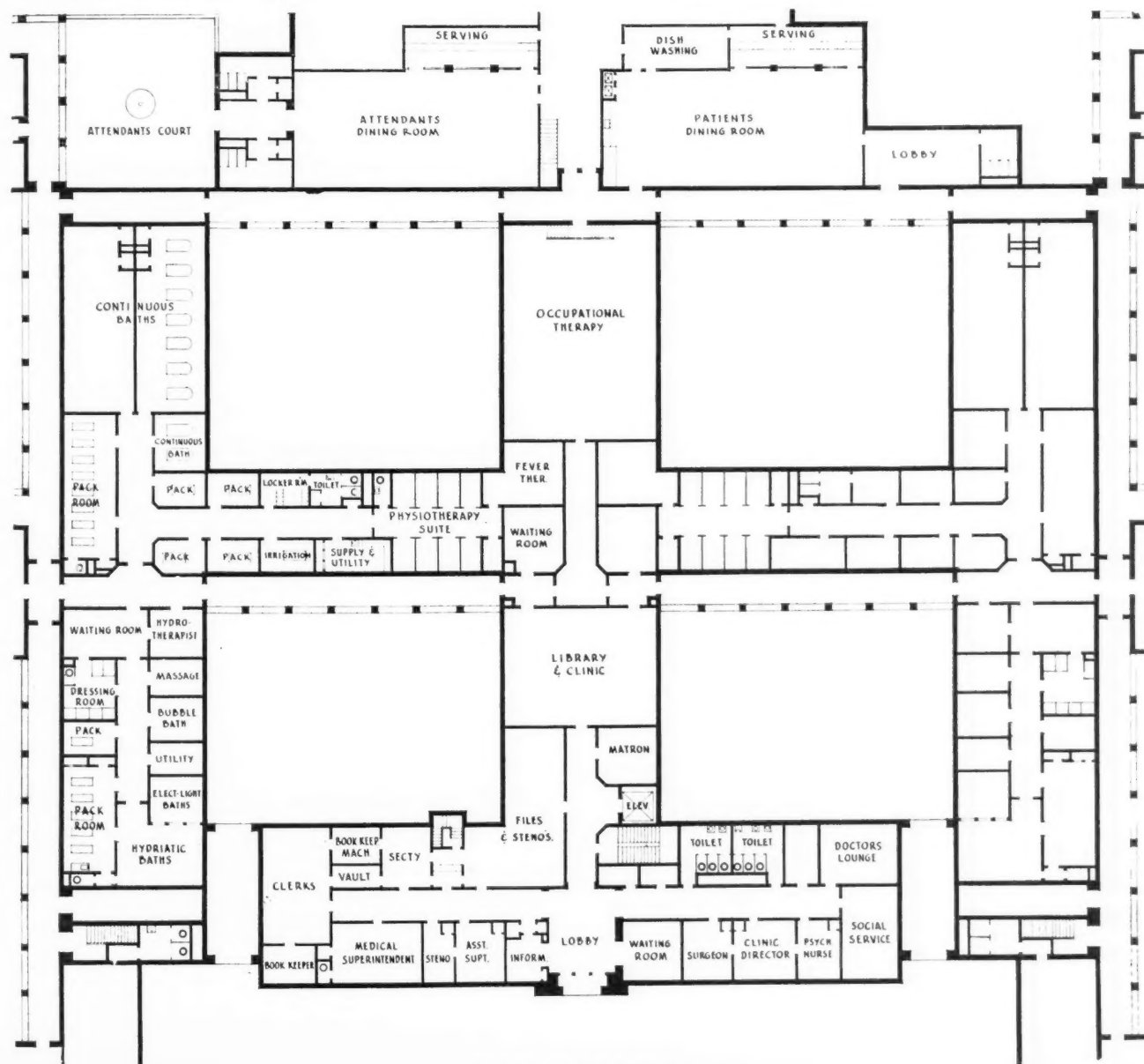
The dairy, hog raising and poultry units and other necessary farm buildings are located on suitable areas entirely separate from the hospital itself. All necessary service buildings and all road building and landscape architectural treatment are being car-

ried along simultaneously with the construction of the housing units.

Before preparing the master plan, the director of institutions and the state architect visited hospitals for the mentally ill throughout a large part of this country.

The site contains a total of about 1,780 acres of which something over 1,200 acres have satisfactory contours for building and farming. A total area of about 185 acres is being used for the structures and accompanying facilities of the institution itself.

The materials being used in the construction work are incombustible



FIRST FLOOR PLAN
SCALE 0 10 20 FEET

and inert, and the character of construction is sound, with the result that the structures are resistant to fire, deterioration and vertical and horizontal force in the highest practicable degree. Window and exterior door openings throughout will be filled with metal frames and sash having metal muntins and metal grilles of the same geometrical design as the sash. This will combine pleasing architectural effect with escape-proof openings.

About two-thirds of the area of the buildings housing patients is contained in first stories and only one-third in second stories. The total plan is so arranged as to contain numerous entirely enclosed exterior courts for the use of patients. This arrangement enhances architectural effect besides providing patients with entirely free access to the out-of-doors, which in California's climate is available to patients at least ten months in the year.

The 1937 legislature made appropriations for additional buildings including the receiving and treatment group, which will constitute the psychopathic division of the hospital, and also for a portion of the group for custodial female patients and for certain other units. Approximately \$6,000,000 has already been provided and approximately \$4,000,000 additional will be required to complete the institution.

Guidance From Outside Sources

The planning of a mental hospital and particularly of the structures to house its psychopathic division should be based, as to functions and relations of the various elements, on guidance obtained by the architect from one or more administrators of such hospitals.

Dr. G. M. Webster of the Patton State Hospital, Dr. Edwin Wayte of the Norwalk State Hospital and Dr. T. W. Hagerty, the medical director and superintendent of the new hospital, have ably provided such guidance. P. T. Poage, assistant state architect in charge of design and planning, and Howard Hazen, senior architectural designer, working with the state architect, have carried the planning and design responsibilities of the division of architecture.

The entire psychopathic division covers a ground area, 500 by 832 feet, the group being so placed that sunlight will be admitted to as large an area of the structures as the site conditions permit.

Consideration of the accompanying drawings will reveal that the elements included in the receiving and treatment (or psychopathic) division are as follows:

On the ground floor, which covers only a portion of the entire area will be found: provision for receiving all patients both male and female, with covered and enclosed access for vehicles; spaces for morgue and necropsy; camera room; rooms for drugs and supplies; storage and space for office files not in active use; provision for receiving and fumigating clothes; marking room; ample general storage space, and an animal room.

How Space Is Allotted

On the main floor are the general administrative section, library and clinic, occupational therapy rooms and the feeding unit including kitchen and dining rooms for each sex. On each side of the center line (one side for men and the other for women) are the tonic, physiotherapy and sedation suites and quiet, disturbed and physiotherapy wards.

On the second floor, which covers only the central portion of the first floor, will be found as a part of the psychopathic division provision for all general hospital and research needs for both sexes.

There is provided, in the one-story quiet ward for each sex, space for sixty-seven beds in five dormitories of about twelve beds each and four single rooms. There are also emergency single toilets for each dormitory, ample day rooms, visitors' room, examination rooms, service pantries, storage spaces, utility room, room for attendants, shoe room, patients' toilets and general bath unit (composed of three rooms, one for undressing, the bathroom and a dressing room), and immediately adjacent an ample and well ventilated clothes room.

Direct access to a separate enclosed outside court is provided for the sole use of the patients in the quiet ward. It is sufficiently large

to give each of the patients in the ward an area of about 290 square feet if all are out at one time. These separate yards for each ward not only furnish exercise spaces, but also constitute additions to the day room areas.

Just behind and to the east of the quiet wards at about the center of the entire group in a transverse direction, and closest to the hydrotherapy treatment areas, are the two one-story wards for disturbed patients, each having space for seventy beds in two two-bed dormitories, one four-bed dormitory and sixty-two single rooms. Twenty of these sixty-two rooms have their own individual toilets and lavatories.

Provision is made in the disturbed wards for day rooms, examination rooms, service pantries, storage spaces, utility rooms, rooms for attendants, shoe rooms, patients' toilets, general bath units and clothes rooms. There is direct access to separate enclosed outside courts.

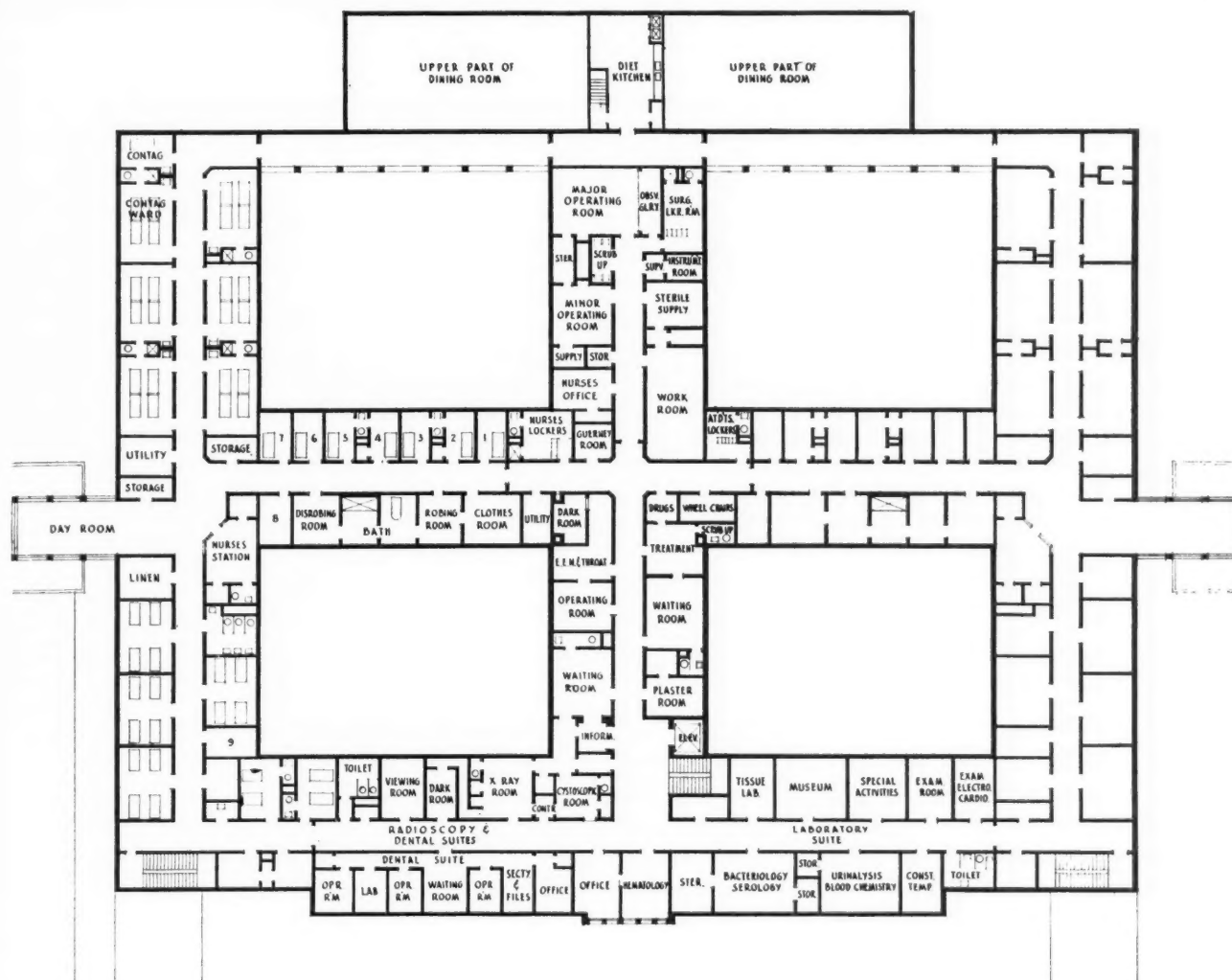
The two one-story physiotherapy wards are placed behind and to the east of the disturbed wards, each having space for seventy-two beds in two ten-bed dormitories, twelve four-bed dormitories and four single rooms. The same provision is made in the physiotherapy wards as for the disturbed wards.

Physiotherapy suites contain space for fever therapy and eight cubicles for diathermy and violet ray.

Sedation and Tonic Suites

Sedation suites contain four rooms each with a single pack table; a pack room containing eight pack tables; one room containing two continuous baths; two rooms each containing seven continuous baths; an irrigation room; locker room; supply and utility room; toilets. Provision is made both in the continuous baths and the pack rooms for segregating patients into three classes according to the degree of their disturbance.

Tonic suites contain waiting rooms for patients, which also serve the physiotherapy suites; rooms for hydrotherapeutics, dressing rooms each with six dressing booths; massage rooms; bubble bathrooms; utility rooms; hydriatric bathrooms with alcoves for electric light treatments; pack rooms containing five pack



SECOND FLOOR PLAN
SCALE 1/4" = 1' FEET

tables; pack rooms containing one pack table, and toilets.

In planning the hydrotherapy and physiotherapy departments, careful consideration was given to the location of dressing rooms for patients and employees, waiting rooms, supply and utility rooms, office and chart rooms. Since it is expected that the hydrotherapy department will operate twenty-four hours a day, this division must in reality be a complete unit within itself.

Provision for occupational therapy is somewhat of an innovation in the psychopathic ward of a state institution. The main occupational therapy shops will, of course, be located in the custodial groups as is common. This department in the psychopathic division is designed to care for habit training and provide light forms of interesting occupational activities for newly admitted cases.

On the first floor, extending out from each side of the centrally located treatment units, are three wings

designed as acutely disturbed, quiet and physiotherapy wards. The acute ward, closest to the treatment units, has single rooms air conditioned and soundproofed to ensure quiet. Rooms for untidy patients are provided with communicating toilets and floor drains as an aid to cleanliness.

Since proper dietetics is of importance in the case of patients housed in this unit, special thought is devoted to the kitchen. Provision is made for preparation of various types of special diets. Tray service with all the refinements usually found in a general hospital will be provided. For ambulatory patients, dining rooms are provided with both cafeteria and waiter service. Cafeteria service seems to have definite advantages for mental patients because it provides an interesting break in a sometimes monotonous routine.

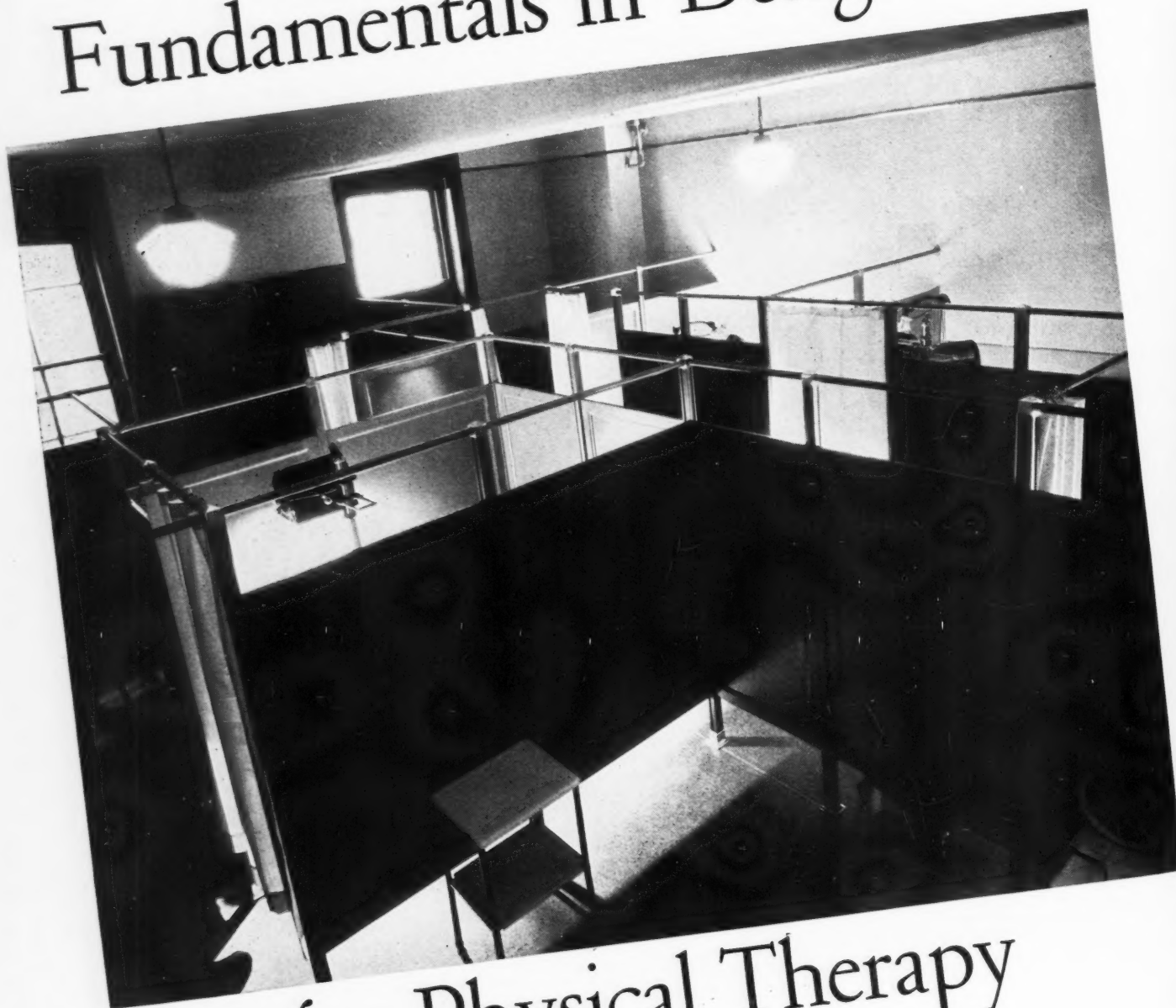
The general hospital and research unit on the second floor contains the

treatment rooms and operating section as indicated on the plan shown above.

The following are provided for each sex: general bathroom composed of disrobing room, bathroom and robing room with clothes room of ample size adjacent; eight single rooms for patients some of which have individual toilets and lavatories; day room for patients; four-bed ward and single room for contagious diseases; nine four-bed wards; two two-bed wards; rooms for interns; nurses' station with toilet and lavatory; general toilet; storage spaces; utility room and linen room.

Equipment to be selected for all these functions will be the best obtainable. All selections are being made in advance and the several spaces are being planned around the equipment to provide suitable spaces for successful operation. Encaustic tile will be used on all wall and floor surfaces, the wall tile to be full height in all spaces in which water is used.

Fundamentals in Design



for Physical Therapy

OF PRIME importance in establishing a physical therapy department—in fact, the only way a department may achieve results—is to have adequately trained personnel under competent medical supervision. Many hospital physical therapy departments with good equipment and poorly trained personnel have failed in their functions, but a department with good personnel, with or without elaborate equipment, will grow and expand.

At one time it was believed that physical therapy could cause little harm, and that no treatment would

endanger a patient's life if moderate care was used. Now, with the use of fever therapy, a patient's life may be in danger unless the treatment is administered efficiently and with proper apparatus.

The council on physical therapy of the American Medical Association believes that the method of producing hyperpyrexia by physical agents, when used in hospitals, should be surrounded with the safeguards commonly employed in a major surgical operation and under direction of skilled physicians, and that the technique and administration of this

treatment should be given as much study as a surgeon gives to a specialty or a certain branch of surgery.

The responsibility for the proper personnel of this department rests squarely on the hospital superintendent and the governing board of the hospital.

No standards can be set as to the location and space required for a hospital physical therapy department, as these requirements will vary not only according to the number of patients but also according to the class of cases treated.

Such a survey of patients treated by the hospital will determine the amount of space and equipment

needed to start the department. The authors of this article will be glad to give their opinions as to the amount of space and equipment needed if the hospital will submit to them a numerical summary of the various types of cases treated in the last year, divided by diagnosis into hospitalized or ambulatory groups.

On page 65 is the plan of a general hospital in Chicago with a bed capacity of 177, with an average daily occupancy last year of 130 beds. This department is located on the second floor and observes three principles that must always be considered in regard to location:

1. Accessibility to elevators from wards or rooms.

2. Location near the hospital entrance for out-patients. The laboratories and x-ray department are on the same floor of this hospital so that out-patients may not pass by wards or rooms in going to the department.

3. Easy movement of apparatus to patient's bedside or operating room. In this hospital the department is near an automatic elevator that is separate from the passenger elevator.

In a new hospital it is wise to leave 25 per cent of the space unfinished for future needs. In the hospital under consideration, the department was started with four rooms, the two rooms across the hall being used by nurses. Recently one of these rooms has been added to the department for fever therapy.

Dividing the Space

The division of the space may be by three methods:

1. Cubicles formed by wires stretched from wall to wall 7 feet above the floor from which curtains 6 feet long are suspended. Except in free clinics, this method is unsatisfactory as there is considerable expense in renewing and laundering curtains and there is little privacy.

2. Steel or wallboard partitions, 7 feet high. In two Chicago hospitals, a large room has been subdivided by wallboard partitions, and the ar-

rangement is satisfactory in every way. In one of the large out-patient clinics steel partitions are used, with curtains in front of the cubicles.

3. Permanent walls. This is the ideal method for a general hospital treating private cases.

Note on the plan that each room has a door to the corridor wide enough to admit a bed and that there is a 30-inch doorway between rooms. This arrangement gives easy access to the hall. It enables the technician to leave doors between rooms open to hear patients in adjoining rooms while she is treating a patient. Complete privacy can be obtained by shutting all doors when this is necessary. This sense of privacy is an advantage in treating private patients, as these patients may resent exposure in a cubicle where a curtain is often pulled back by an orderly or another patient.

The ceiling height should be at least 10 feet. Fireproof construction is important. The location and arrangement of space must permit perfect cleanliness.

Comfort for the Patient

The following comfort factors should be considered:

1. The walls usually should be painted yellow, yellow-green or gray.

2. The treatment tables should be placed so that the patient will not have a brilliant light from window, ceiling or wall shining in his face when he is lying on the table. There should be indirect lighting.

3. There should be lockers for patients' clothing if the space is divided by curtains. If wallboard, steel or permanent walls are used, a clothes rack in each room is sufficient.

4. Three or four chairs in the hall will serve as a waiting room, as all except new patients come on appointment.

5. Proper heating is important in the physical therapy departments. A minimum room temperature of 75° F. should be maintained. In one hospital a steam radiator in each

room with manual control varies the temperature of the room for the patient.

6. A toilet should be in or near the department.

The floor covering should be soft, as the technicians are on their feet constantly. In the hospital being described it is of a rubber composition. In a hydrotherapy room, the floor is usually of concrete.

The electric outlets should be on the wall about 3 feet from the floor. This eliminates bending and searching for the outlet. It is an advantage to have outlets in pairs with direct and alternating currents available to save the expense of separate converters on electrical apparatus. The connecting plugs for the two currents should make it impossible to connect apparatus to the wrong circuit. There should be two outlets to each room. Polarity plugs should be used with direct current.

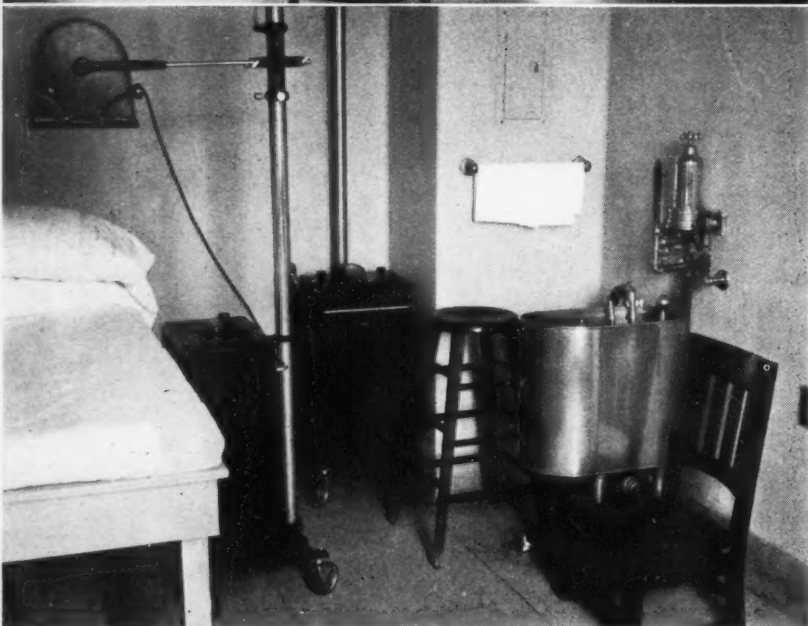
Equipment Requirements Vary

At least one window should be given each treatment room, with two or more in the exercise room. The windows should be screened in the summer and have some apparatus to prevent drafts at all times. The window sills should be high or else the windows should have translucent glass for privacy.

No standard list of equipment can be given as the requirements vary greatly. The survey will indicate what types of cases could be treated in the department and what apparatus could be used. Again it is emphasized that personnel, not apparatus, makes a physical therapy department. The medical director and the physical therapy technician should be consulted about the equipment. The director should then consult with the hospital staff members.

Instruments should be of standard make and should be purchased from reliable manufacturers who are prepared to furnish good service in repairs and in replacing broken parts. This is most important, especially if the department is small and there are only a few machines of each type.

The equipment of a hospital physical therapy department should be purchased only when the demand for it is sufficient to warrant the



ROOM
1

ROOM
2

ROOM
3

outlay. No apparatus should be purchased that has not been accepted by the council on physical therapy of the American Medical Association. It is to be noted that all machines accepted are not equally efficient. Certain minimum requirements must be fulfilled for acceptance but some machines are more efficient than others. These data are published in the *Journal of the American Medical Association* and can be obtained from the secretary of the council on physical therapy.

The hospital superintendent and the director of the physical therapy department, from this information, may then decide on the purchase of equipment.

The equipment of the 177-bed general hospital is as follows:

Room 1 (left) is designed for underwater exercises and contains a Hubbard tank. Of somewhat different shape is the special tank in a similar room at Stanford University Hospital, San Francisco, not pictured.

The metal stretcher equipped with canvas perforated strips, to allow for drainage when removing a patient from the tank, is supported from an overhead ball-bearing carrier and makes the handling of incapacitated individuals a simple procedure. The head rest is such that the metal stretcher may be held at any of three different levels, or when the stretcher is not necessary a canvas sling at the back of the head and under the chin gives adequate support.

Hydromassage is accomplished by means of compressed air forced through a perforated metal ring, which, because of its simplicity and size, may be placed conveniently in any part of the tank. The large mirror at the foot enables the patient to observe his movements, and assists the operator in demonstrating movements. The psychological reaction on the patient is remarkable.

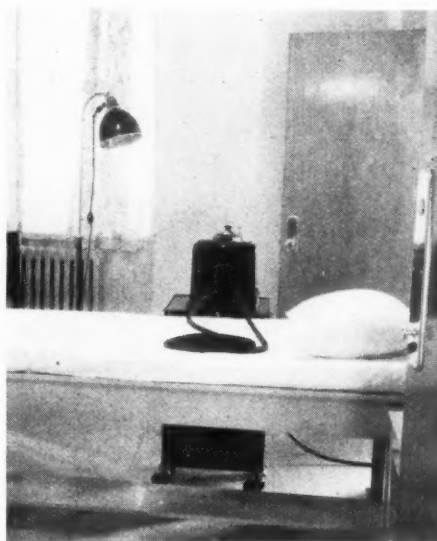
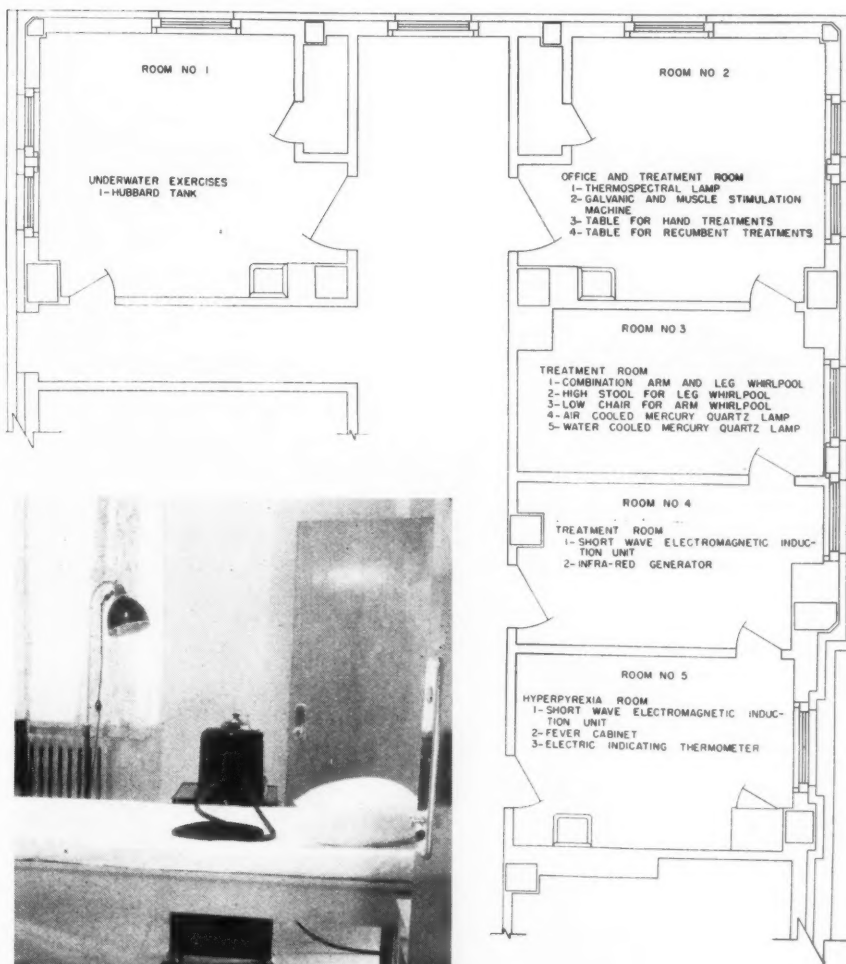
Room 2 contains a treatment table for recumbent patients. This is 30 inches wide, 30 inches high and 6½ feet long with a shelf 12 inches from the floor, a small table 30 inches square for treatment of hand and forearm cases, a radiant heat lamp, a machine for electrical muscle stimulation and exercise apparatus (stall bars, weight and pulley, abduction

ladder and hand exerciser). Note the record file and technician's desk in corner. This desk is so placed that when sitting there the technician can see or hear the patients in all rooms if the doors are open. This is the room by which patients enter the department.

Room 3 contains a combination arm and leg whirlpool bath. This combination is a cost and space saver for the small hospital. A patient sitting on the high stool, shown in the photo, uses the whirlpool for the foot and leg to the knee; by using the cut-down chair the hand and arm can be immersed to above the elbow. Air and water cooled ultra-violet lamps also are shown.

Room 4 contains a treatment table, an infra-red generator and a short-wave diathermy machine. At Northwestern University Medical School, S. L. Osborne, research associate in the physical therapy department, has made 300 tissue temperature measurements mostly on human subjects, but many on animals. From these experiments it was concluded that proof is still lacking that short-wave medical diathermy has special selective thermal action (*i.e.* that one wave length is more effective than another), special bactericidal action or special biologic action. We believe that the therapeutic results can be attributed to the effects of heat. Mr. Osborne's experiments showed that electromagnetic induction with coil technique was the most effective and convenient method of producing heat in the depths of human tissues. The picture of this room shows this type of short-wave machine.

Room 5 shown at the right is a room equipped to give fever therapy by physical agents. There is a short-wave diathermy machine (electromagnetic induction type), a fever cabinet and an electric resistance thermometer. In hyperpyrexia by physical agents with temperatures over 103° F. this form of thermometer should always be used because the temperature over this point may rise several degrees between the readings with an ordinary rectal thermometer. This electric thermometer enables the rectal temperature to be constantly under the observation of the nurse.



ROOM 4

The relative newness of scientifically practiced physical therapy makes accurate records of this specialty extremely valuable, according to the manual of the American College of Surgeons. "They should include a brief summary of the anamnesis with provisional diagnosis, description of treatment as to type and quantity, report of progress while under treatment, and finally a detailed description of the condition of the patient at the time of discharge."

To have value in clinical research, the physical therapy department records should conform to the general record system of the hospital. The case is sent to the physical therapy department for consultation and proper prescription of physical therapy. The case is sent back to the referring department for frequent checks and final discharge. At these times the value of physical therapy should be judged by both referring doctor and the department itself.



ROOM 5

Plan of physical therapy department of Passavant Memorial Hospital, Chicago, with a bed capacity of 177 and an average occupancy of 130 beds. The equipment is listed on the plan and photographs of the individual rooms are shown on this and the opposite page.

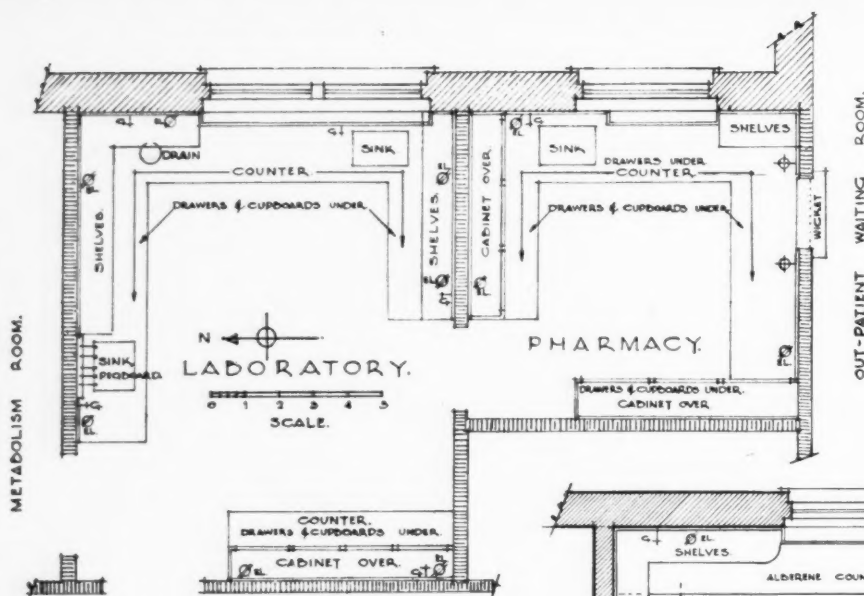
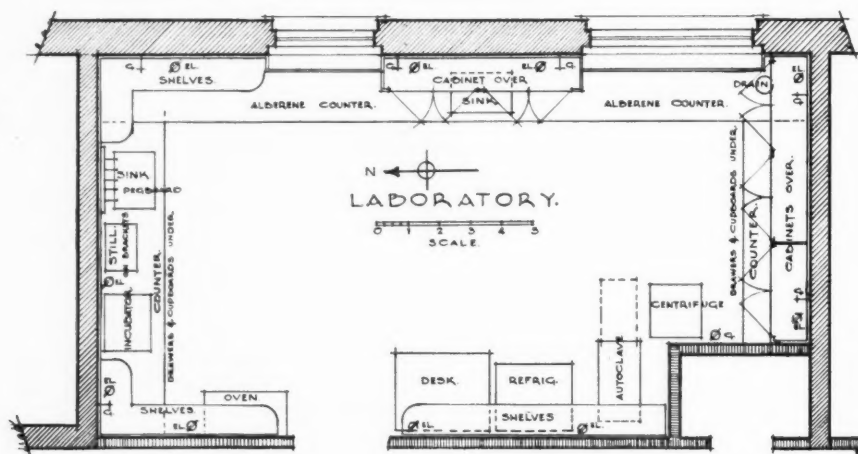


Fig. 1 (left)—Plan for the laboratory of the 60-bed general Midtown Hospital, New York City, of which Butler, Stein and Vitolo were the architects. Fig. 2 (below)—Laboratory layout of a 75-bed general hospital in the suburbs where no other laboratory service is available in the vicinity. This is the Southside Hospital, Bay Shore, Long Island, and was designed by Charles Butler and Robert D. Kohn, architects.

ADDISON ERDMAN



Tour of Three Laboratories

IN THE planning of a hospital, the laboratory is too often relegated to some left-over space, although it is a hospital service of no small importance. It is the workshop of the service for which the hospital is being built and upon which falls the burden of providing answers to innumerable tests, analyses, examinations and other bacteriologic problems. In addition to these routines, each hospital will have its own list of special requirements and conditions to be met. Among the latter, the size and purpose of the institution, the routine of the staff and the proximity of other facilities must be considered.

The size of the institution has a direct bearing on the laboratory. In a small hospital, much of the routine is done by members of the staff. In some small hospitals, when there is a technician, he is required to take care of other duties such as metab-

olism, pharmacy or necropsies. In larger institutions, there will be a director of laboratories with many assistants.

The type of hospital and its location will determine the type of laboratory. The tuberculosis sanatorium would naturally have a different routine from that of the chronic disease hospital. A large institution away from big centers may develop a complete laboratory service with research facilities, with an eye toward attracting men of high calibre who would be glad to avail themselves of such unusual advantages.

Another institution may be so located that it will not stress the laboratory service, but send much of its routine work out to near-by hospital or commercial laboratories.

In the actual planning of the laboratory building, the chief pathologist or director of laboratories will

have definite preferences as to requirements, locations, arrangements and details. It is of the utmost importance that the architect work in closest cooperation with him. There should be a conference or a series of conferences until all parties are agreed on what functions are to be performed and how the desired results may best be obtained.

With this in mind, take as an example a laboratory for a small general hospital of 100 beds or less. It must have just as good facilities for studying a case to its final conclusion, step by step, as a hospital of a greater number of beds. After all, an illness in a small hospital is just as serious as one of the same type in a larger institution.

Naturally this type of laboratory cannot be as elaborately equipped as a larger, more heavily endowed institution could afford, but it must have the essentials.

Figure 1 shows the layout of a laboratory for a 60-bed general hospital. In this case, the laboratory is on the first floor, near the waiting room of an exceptionally large out-patient service. The technician is also in charge of the pharmacy and the room for basal metabolism. The laboratory itself is 11 by 13½ feet with the pharmacy, 9 by 10 feet, at one end. Its equipment is entirely of wood, with acid-resisting soapstone table tops and splash backs. All cupboards have cement bases set back for toe space.

At the north wall is an acid-resisting soapstone counter with drawers and cupboards beneath it, and three wood shelves under it. At one end is an acid-resisting sink with a wood peg board above.

The east wall has an acid-resisting

On the east wall is a continuation of the soapstone counter.

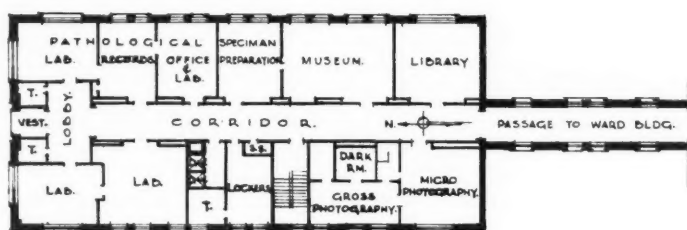
The west wall has a wood counter with an acid-resisting finish. There are drawers and cupboards below and dressers above.

The pharmacy opens to the south, directly off the laboratory. It is fitted out in a similar fashion, except that all the counter tops are wood with an acid-resisting treatment. On the south wall is a door with a window, grille and counter opening directly into the out-patient waiting room. Here the out-patients may tender their prescriptions and wait for their medicines to be made up.

Throughout both rooms are numerous outlets for gas, electric plugs and both hot and cold water, so that they may be within easy command whenever they are needed.

Animals are kept in a separate room on the top floor, where they may have light and air, and there is no chance of odors escaping into the hospital. All these rooms are mechanically ventilated.

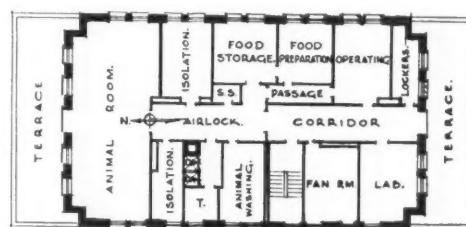
Figure 2 shows the layout of a laboratory for a 75-bed general hospital. In this case, the pharmacy is in another part of the building and the laboratory is in conjunction with the morgue and necropsy room. As the hospital is in the suburbs and there is no other laboratory service available in the vicinity, it naturally has to be more complete than the one just described. The room is 12 by 22 feet, with a terrazzo floor and base. It has mechanical exhaust ventilation, and all four walls are completely used for equipment. All the built-in equipment is of wood with



FIRST FLOOR PLAN

SCALE 0 10 20 30

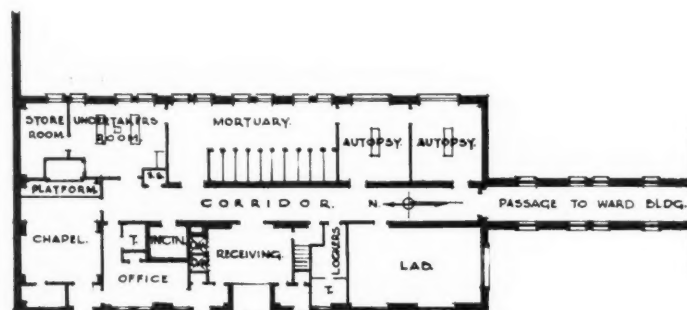
FIG. 3-B.



THIRD FLOOR PLAN

SCALE 0 10 20 30 40

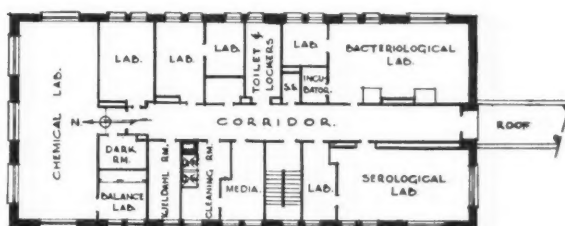
FIG. 3-D.



BASEMENT FLOOR PLAN

SCALE 0 10 20 30 40

FIG. 3-A.



SECOND FLOOR PLAN

SCALE 0 10 20 30 40 50

FIG. 3-C.

soapstone counter with an apron and foot rest beneath. At one side is the sink and, on the left, a small acid-resisting iron waste drain let into the soapstone. The shelves from the north wall carry around the counter, with the splash back carrying around, and a radiator baffle below, to deflect the heat up and to prevent both a down draft at the window and excessive heat under the table.

Fig. 3A-D—Floor plans for the separate laboratory building in which the routine laboratory work of a 1,500-bed chronic disease hospital is carried out. Three floors and a basement provide space connected to the main group by a two-story corridor. Butler and Kohn, York and Sawyer were the architects for this structure, a unit of the new Hospital for Chronic Diseases, on Welfare Island, New York City.

terrazzo bases under cupboards, set back for toe space.

On the north wall is a wood work counter with drawers and cupboards beneath. In this counter is an acid-resisting enamel sink, with a foot rest below and a wood peg board above. Set on the counter is a still. The remaining wall space is taken up with open shelves, four tiers high.

The east wall has an acid-resisting

soapstone counter and splash back with sink of the same material, and an acid-resisting iron waste sink set in it. Underneath the counter are drawers and foot rests. At radiators, there are openings and baffles for deflecting the heat. Above the counter are shelves and wall cases.

The south wall has an acid-resisting wood work counter with wall cases above and with drawers and cupboards below. One of these cupboards was separately built in and had its own cylinder lock for the storage of alcohol, for this was planned in the days of prohibition.

The west wall is lined with open shelving, four tiers high. Under the shelves, the wall space is taken up with a centiguge, autoclave, refrigerator, desk and oven.

Above the counter and below the shelves or cases, there are numerous outlets for hot and cold water, gas and electric plugs.

Serves Hospital for Chronics

The next type of laboratory shown is the separate building for the routine work of a 1,500-bed chronic disease hospital. (Figs. 3A-D). In a large institution, where there are several buildings, it becomes necessary to have a small routine laboratory for each ward floor or building, where the simpler forms of work are done, and a separate building to house the bulk of the routine work. One ward laboratory, 10 by 15½ feet, can take care of approximately 100 beds. But if research is to be done, it is better to house this in its own building and not attempt to mix research with routine.

The routine laboratory building is well out of the ground on three sides and is connected to the main group by a two-story corridor.

The basement, as shown in Figure 3A, is given up entirely to the interests of the deceased. The receiving room for supplies is in the center of the west side, with two electric dumb-waiters to the upper floors. Near by is the mortuary office.

Opposite this is the mortuary room, with a 30-tray refrigerator. To the south of this room are two light and airy necropsy rooms with colored tile walls. Near by is a special laboratory for work in conjunction with the necropsies.

To the north of the mortuary is the undertaker's room, with sinks and two embalming tables. Opening from this is the storeroom for supplies and coffins.

On the northwest corner is a small chapel with a platform and viewing chamber at one end, and a rest room near the entrance. This is used for funeral services. The location of and general access to this building are such that hearses and funerals never come within the vision of the patients.

The first floor (Fig. 3B) is taken up with the offices and business end of the laboratory work. Here the chief pathologist has his office, which is connected directly with the room for pathologic records and a pathologic laboratory. Two additional laboratories are in close proximity.

Next to the pathologist's office are the specimen preparation room, the museum and library. Across from these are the rooms for gross photography and microphotography, with their own developing room and film storage. There are also on this floor a locker room and a toilet for technicians and toilets for visiting public.

Where Routine Work Is Done

Figure 3C shows the second floor, on which the bulk of the routine work is done. Across the entire north end is the chemical laboratory, with its fume hoods and refrigerators along the inside wall and with work tables in front of all windows. Between windows are cabinets and cupboards and in one corner, an emergency shower head. Down the center of the room are centrifuges and work tables with sinks at the ends. Off this laboratory is a private laboratory with a balance cabinet. Close to it are the darkroom and kjeldahl room.

In the center near the dumb-waiters are the media cleaning and sterilizing rooms, and across the corridor are three small laboratories, supply room and locker room for technicians.

The serologic laboratory has its work tables along the outside wall, with centrifuges down the center. It also has a small laboratory adjacent.

The bacteriologic laboratory has a similar layout, with the addition of a transfer cabinet and an insulated incubator room.

The third floor, Figure 3D, is for the animal service. At both ends are paved terraces on which the animals may be exercised or sunned.

The animal room proper is at the north and has exposure on three sides. The windows are set high, with clerestory windows above. Between the main animal room and the rest of the floor is a fresh air lock to keep animal odors from the rest of the floor.

Adjacent to the main animal room are two small rooms for isolation. All three rooms have ventilating brick set low, to keep the air circulating with the aid of exhaust fans.

The animal washing room has sinks for washing the animals, drying cages with heat and a cage sterilizer.

The food storage and preparation rooms are fitted out as carefully as for a patients' diet kitchen. They take care of a variety of menus—from hay for rabbits to fruit for monkeys.

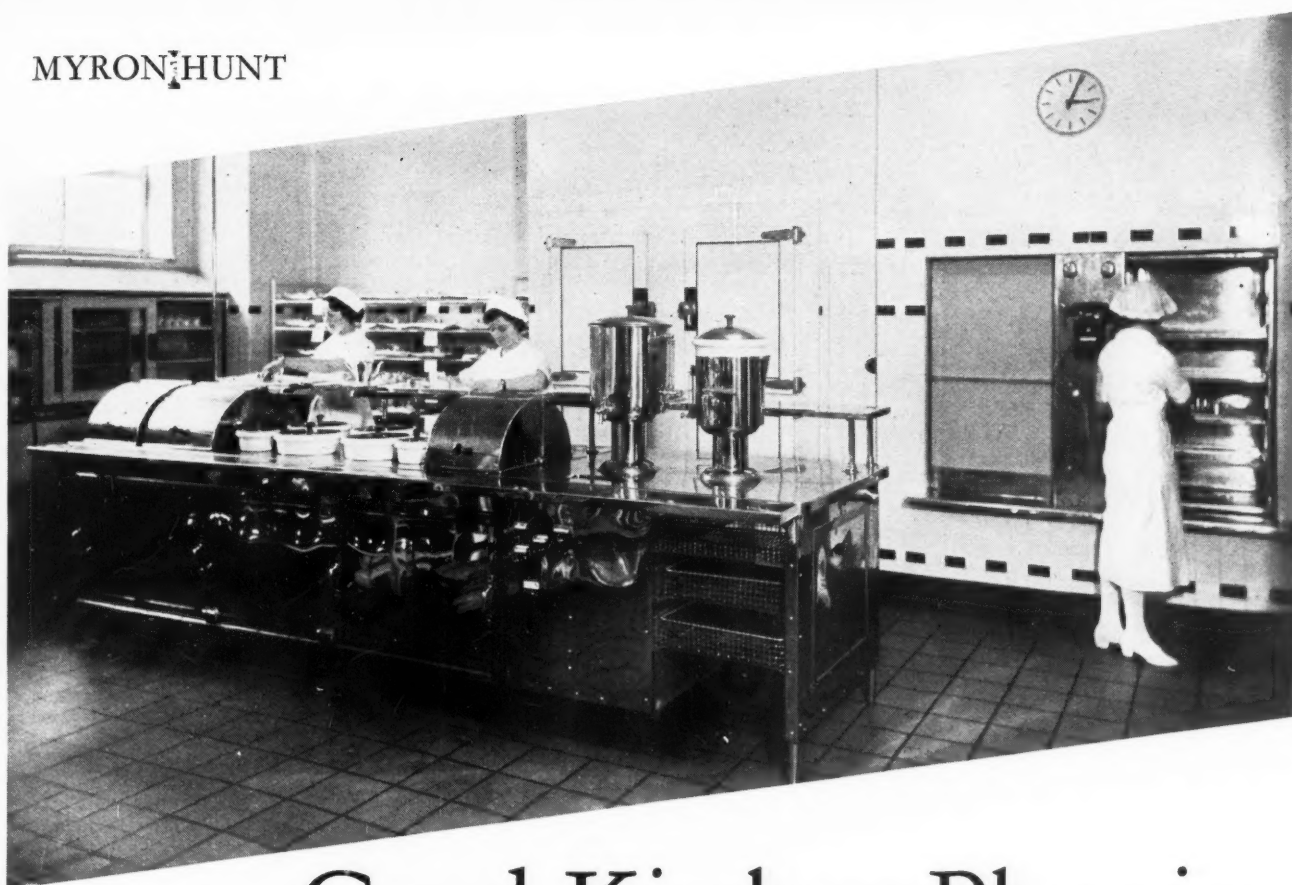
The animal operating room has a separate passage from the airlock, so the animals never actually go through the corridor given up to laboratory circulation.

Opposite the operating room is a special laboratory. In this building, there is an exhaust system of ventilation. The necropsy and mortuary rooms have a separate duct system and fan. Individual laboratories, where there are fume hoods, have exhaust systems through the hoods, each hood having its own fan and switch and ducts through the roof. There is also a fan for general exhaust throughout the building.

Wall and Floor Finishes

Likewise there is a system of acid-resisting iron wastes from tables and sinks leading to a sump, where waste is diluted and then ejected into a separate sewer line.

In general, the corridors and public spaces have glazed block wainscots and asphalt tile floors. Laboratories have plaster walls, asphalt tile floors, metal cabinets with acid-resisting soapstone working surfaces, except the pathologic laboratories, which have wood working surfaces with acid-resistant finish. The animal quarters have salt glazed terra cotta block walls to the ceiling.



Good Kitchen Planning

THE general principles governing a kitchen plan for a large or small hospital are the same. The variations in those principles are matters of expansion and detail. The architect will first attempt to locate the kitchen quarters above roughly finished basement rooms. This location will allow kitchen plumbing and other pipe systems to be exposed in the basement ceiling, to provide accessibility for repairs and alterations.

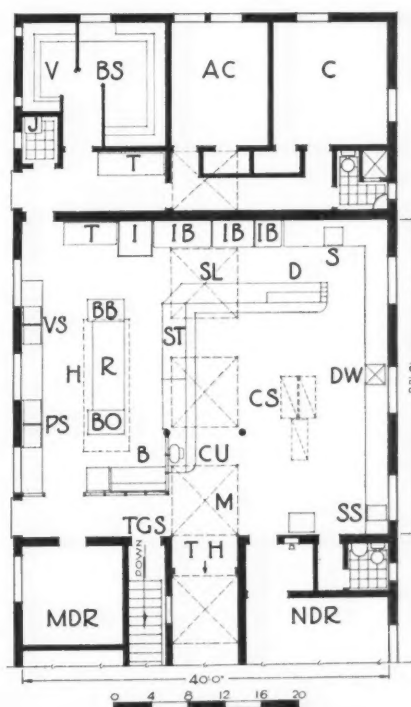
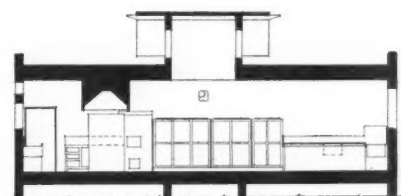
When decision has been made as to whether the hospital shall be planned vertically or horizontally, the question immediately arises as to the type of tray service that will be required. This must be decided before the general floor plan of the kitchen and its equipment can be determined. In fact, it is perhaps the first decision to make before sketching plans for the hospital.

The development of the heated food cart has made it possible to extend the principle of the complete tray setup in the kitchen to hospitals of much greater bed capacity than was feasible in the days when

the European ideas of a horizontally extended hospital layout prevailed.

When hospitals like Cincinnati General were built, although they were equipped with elevators, the tray setup made completely in the kitchen could not be used as economically as in a large modern hospital vertically designed. Great hospitals, such as Los Angeles General and those that have been developed in New York and elsewhere, have used the multi-storied approach to the bed arrangement, and most of them have a complete kitchen

The plan shows the layout of the kitchen at LaVina Sanatorium, Altadena, Calif. The key is as follows: AC, assistant chef; B, baker; BB, butcher's block; BO, baker's oven; BS, broken stores; C, chef; CS, cart storage; CU, coffee urn; D, dessert; DW, dishwasher; H, hood; I, incinerator; IB, ice box; J, janitor; M, monitor; MDR, men's dining room; NDR, nurses' dining room; PS, pot sink; R, range; S, sink; SL, salads; SS, soaking sink; ST, steam table; T, table; TGS, to general stores; TH, to hospital, and V, vegetables.





tray setup system through capitalizing the modern fast elevator plus the preheated tray cart.

The intelligent planning of a hospital kitchen is not possible unless the executive importance of the dietitian in the hospital management is predetermined. The late Frank Chapman of Mount Sinai, Cleveland, was one of the first to emphasize this thought.

The possible use of the "continuous belt" vertical conveyor running from the kitchen to the top patient level, rather than the heated food cart loaded in the kitchen, brings in new problems. It tends to increase the size of the floor diet kitchen and at once requires a decision as to the method of distributing the trays on the bedroom floors. Shall nurses or waitresses deliver the trays from the conveyor to the patient? A hospital, no matter how many stories high, can be too large horizontally for the best and most economical results should the vertical belt tray conveyor be adopted.

As between the food cart-elevator plan and the vertical conveyor-waitress plan, there is always a question

of the comparative loss of heat and cold to the food. The cart can be kept heated, but the conveyor cannot be so easily treated. The longer carry for the waitress or nurse is another factor in getting hot food to the bedside. In general, carrying food by electrically heated carts to corridor door or to ward bed involves the least loss of heat to the food. Nevertheless, in a tall hospital with not more than one nurses' station on a floor, the vertical conveyor is not a bad competitor.

While minimizing the size of local diet kitchens on the floors, use of the modern heated food cart requires a considerable food cart "garage" in the kitchen, located at a point near to the serving tables, so as to make possible the rapid movement of the carts past the hot food service areas, the salad and other cold plate counters and then past the coffee urns.

Any good kitchen has qualities in common with all other good kitchens. It concentrates certain activities as a part of, or adjacent to, the cooking area. For instance, the pot and vegetable washing area is



Top of page: View of the well arranged kitchen for private patients at Allegheny General Hospital, Pittsburgh. Above: The bake shop in a smaller hospital, Henrotin of Chicago, an institution of 104 beds. Opposite page: General view of the kitchen, showing the bake ovens, in the new Mercy Hospital in East Melbourne, Australia.

usually located back of the cooking area. Clustering in a workable way near this principal center of the kitchen should be the baker's department, the salad department, the ice cream serving and dessert department, and the food cart parking space.

Another consideration is the location of the special diets division of the kitchen with respect to the main cooking area. This brings in the question as to whether the products of the special diets division of the kitchen are to reach the trays from the steam or serving tables in front of the ranges or after they have left the main steam table. Obviously, any scheme by which the products of the special diet kitchen can reach the trays under the direct eye of the dietitian, *i.e.* directly from the main steam table, is preferable.

Locating the dishwashing department resolves itself into several considerations: the outward movement of the food carts (from what should always be a "right hand" kitchen) to the wards, and the return movement of the soiled dish carts; the handling of the dishwashing so that its noise and general disturbance may be minimized in the kitchen proper as well as in the hospital as a whole, and the exit of cleaned dishes from the department at a

point of easy distribution to the cold and warm dish containers.

Of primary importance is the question of the location of ice boxes and of the extent to which they are broken up. What is the proportion of wholesale "walk-in" boxes to those which may be called "retail" boxes? How many smaller "reach-in" boxes are needed adjacent to the chef, baker, salad maker and special diet kitchen? These questions are related in part to the size of the hospital.

The vegetable preparation room in a great hospital is a department by itself, but in a small kitchen vegetable sinks with their drain and work boards may be located back of the range or adjacent to the pot-washing sinks. In any event the vegetable preparation area is wet and unsightly and it feeds a great deal to the garbage receptacles. It must be so planned that it is convenient to the place from which its raw materials come and to which they go in the orderly preparation of a meal.

Storage of fruit, its preservation and its convenient location as to the point of its preparation and distribution are items which in a small kitchen are related to the vegetable room and in a larger kitchen become a department in their own right.

The convenient location of a "broken stores" room, accessible particularly to the chef and the baker and under the chef's direct control, is one of the problems to be solved. This location of open stocks of dry foods assumes that the general storehouse of dry foods cannot be placed immediately adjacent to the center of intensive activities around the cooking area and that the general storeroom is in charge of someone other than the chef.

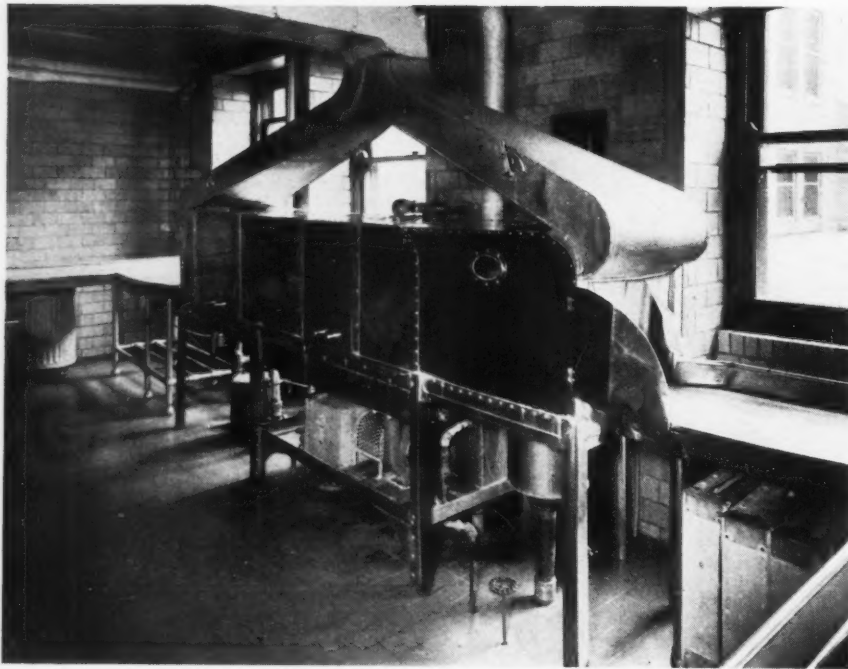
The location of elevators for taking care of the food leaving the kitchen, together with the return of soiled dishes, gets early consideration by the architect. In a hospital in which there is but one freight elevator, the passenger elevator must be located at a point at which it can be called into use in case of a breakdown. Even in a large hospital it is inadvisable to think of the passenger elevators as never to be drawn upon by the kitchen. Breakdowns or repairs sometimes will make necessary the use of the passenger elevators for food carrying purposes.

Partly setup trays, in conveniently located racks on wheels, where they can be brought into instant use as serving proceeds, provide another minor "garage" problem.

The organization of the kitchen, as such, is intimately related to the general food storage location, refrigerated and unrefrigerated. General food storage must be so located that foodstuffs can be received and distributed conveniently from wholesale to broken stores as well as to retail and lesser ice boxes. If the hospital is not too large, the employees' entrance and exit should be located to route employees past the office of the purchasing agent or food receiving clerk. This office for obvious reasons should adjoin the entrance to the general food storage departments.

Local considerations are likely to govern the number of individual dining rooms for employees and others. Often a special dining room for colored help must be prepared. In the West preparations may be needed for Oriental help. Special dining rooms of various types may be needed. Many hospitals are featuring a dining room for out-pa-





In a big hospital the dishwashing machine requires a large space allotment.

tients who are on special diets. Such dining rooms, as required, necessarily should be adjacent to the source of the prepared food.

Immediately another problem arises. Shall a cafeteria system be considered? How elaborate must such a system be? How many of the foregoing groups can one cafeteria counter serve by staggering meal hours? A soda fountain service installed elsewhere may modify or minimize the cafeteria needs. Shall different types of employees be served different types of food? Is more than one cafeteria likely to be required?

A miniature cooking unit may sometimes be included for use during night hours, so that the general kitchen and supplies may be under lock and key. The location, character and arrangement of the cafeteria, together with the number of separate dining rooms to which the trays are finally carried, become major problems for the architect to consider.

Location of toilet and dressing rooms for kitchen help must usually by law be situated outside the kitchen proper, but otherwise it is a question of available space near, but not necessarily adjacent, to the kitchen. These rooms should be related to the entrance and exit door for employees.

Completely natural light and ventilation or completely artificial light and ventilation are two extremes that present themselves in planning any hospital kitchen. It is of primary importance that the kitchen be at the center of gravity on the lower level of the ultimately developed hospital, but it may not necessarily be so centered in connection with the first building operation. In the process, a kitchen so located is likely to find itself where its noises and odors necessitate a totally closed and artificially ventilated scheme.

This particularly applies to a multi-storied plan with its elevators centrally located in one bank. It applies less to a typical western or southern one-story, 40 to 60-bed hospital. In such a building the kitchen may be at the center and still be thoroughly lighted and ventilated by ordinary windows and "monitors," without its noise and odors disturbing the patients. The direction of the prevailing winds in this case must be considered if the kitchen is not totally closed and artificially ventilated.

Acoustical treatment of the kitchen is possible and desirable. Some of the best acoustical materials used on ceilings of wards and corridors are not practical in the kitchen where condensation and the accumulation of grease mean scrubbing and paint-

ing. Some of the early and otherwise successful acoustical materials for kitchens developed the drawback of being partly dependent upon a perforated metal pan which was not rustproof. More recent methods seem to indicate the use of perforated materials that will not rust, back of which the fireproof and verminproof stone or glass "wool" of recent decades can be placed.

The character, nature and extent of the heating and ventilating systems are affected by many factors: climate, cost, available windows and particularly the degree to which kitchen noises must be closed in. Details of general heating and ventilation are especially important, though not elaborated upon here. Decision must be made as between ventilating by a suctional range-hood method only or by a combined suction and supply system. When it comes to the heating, there is the question of wholly direct steam or partly indirect with or without a fan. Genuine air conditioning is not likely to be used in many hospital kitchens because of the dominance of the range-hood suction fan.

Other details of good kitchen planning are: the character of the floor, perhaps the best thing being old-fashioned red quarry tile; toe room at all counters; use of monel metal, or preferably stainless steel, as far as possible; shaping of counters with proper curbs and drains, and methods of picking up and conveniently transporting garbage.

A completely electrical kitchen will ultimately be possible in some localities. Having such a kitchen is, today, less a question of appliances available than one of electrical current cost. Olive View Sanitarium at Los Angeles County General Hospital, in a position to obtain low current rates, has demonstrated that electrical cooking may require less floor space, produces a kitchen that is never overheated about the ranges, and cooks meats with a shrinkage so minimized as to produce an actual saving on the cost sheet which materially contributes toward paying the excess cost of the electric current over gas. Electrical hospital kitchens will never become universal, but they are certain to become financially possible in many communities.

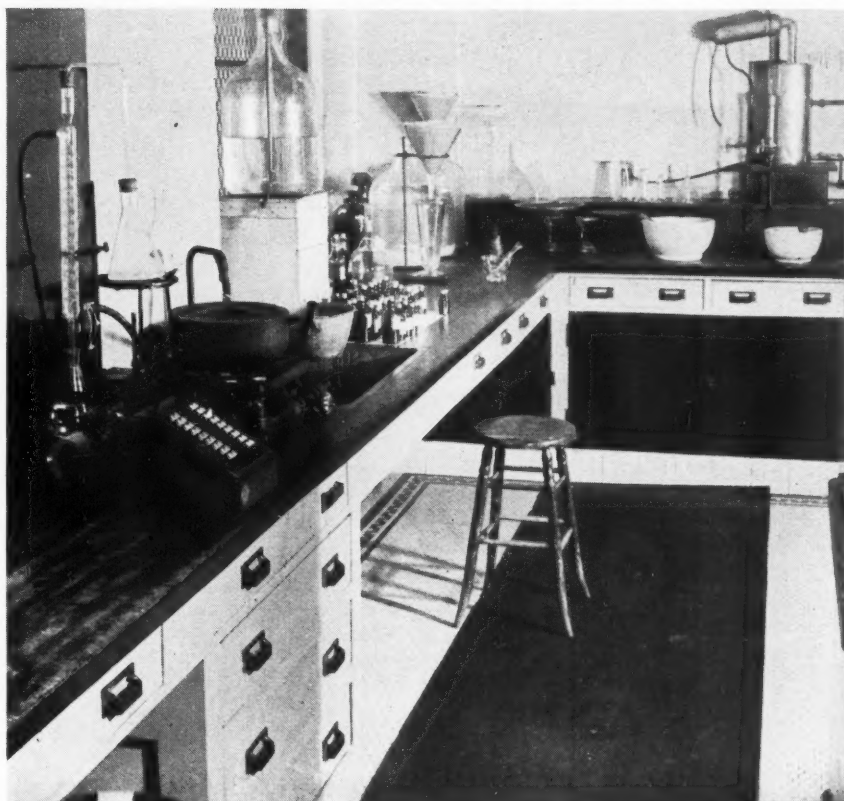
Prescribed for the Pharmacy

WILLIAM A. RILEY

THE pharmaceutical department of any hospital may be considered as an institution within an institution. The modern hospital is actually a collection of adjunctive agencies and services created for the efficient practice of medicine. Among these dependent agencies, the hospital pharmacy is one of the most important.

Allocation of duties to the pharmacist and his staff, and the equipment, preparation and handling of prescriptions, as well as the location of the pharmacy, all demand careful attention on the part of the hospital administrator and the architect.

The pharmacy has often been one of the most neglected departments in hospital planning. Too often this department is placed in some poorly lighted and inaccessible location of the hospital that could not possibly be utilized for any other purpose.



Efficiency is maintained not only by general planning but also by the correct placing of equipment in relation to use.

That the pharmacy, whether for out-patient or in-patient or both, may stand its full share of overhead and operate most efficiently, it must be carefully studied and must incorporate the accompanying architectural requirements and equipment.

Whether the pharmacy should be on the first or ground floor must be governed by local conditions, such as the approach to the hospital, orientation and location of the hospital out-patient department. In view of the fact that all medicines radiate from the hospital pharmacy, it is essential that this department should be centrally located.

It may be assumed here that the pharmacy serves both the out-patient and the in-patient. The plans show pharmacies for small, medium and large hospitals ranging from 50 beds to 300 beds. Of course in some hospitals it may be desirable to have two separate pharmacies, one for each type of service, or an auxiliary drug room which serves the out-patient department alone, with the main drug room serving the in-patient de-

Equipment of Main Dispensing and Out-Patient Pharmacies

Narcotic safe	Centrifuge
Drug trucks	Racks for holding inverted graduates
Scales	Window shades
Work tables	Bunsen burners
Metal shelving	Brooms
Built-in shelving	Mop and pails
Prescription cases	Safe
Drug cabinets	Personal lockers (metal)
Drug baskets	Library shelving, adjustable
Waste receptacles	Desk set, ink, pen, blotter, pencil sharpener
Electric refrigerator with metal drawers for biologic products	Bulletin board
Capsule machine	Mortars and pestles
Label typewriter	Filters
Label cabinet	Wrapping paper and holder
Water stills	Ladders, portable and movable
Hot plates—gas or electric	Ladder on rails
Solution tanks	Torsion balances
Solution sterilizers	Ointment slabs
Barrel trucks	Spatulas of stainless steel
Alcohol racks	Percolator
Four-wheel delivery trucks	Emergency drug closet or cabinet—medicines for major catastrophe
Stools	
Desk and chair	

partment only. In the hospitals described, one pharmacy was considered adequate.

The three main divisions of a pharmacy in a general hospital are the storage, preparation and dispensing departments. Each of these departments must be given careful study. The size and type of the institution will have a bearing on the number of prescriptions to be dispensed to out-patients and the supplies required by in-patient service. When these quantities have been determined, it will be possible to allocate proper space for receiving stores, storage, manufacturing, mixing, dispensing and office. All these departments should be adjacent to each other. If possible, the drug storage or stock room should be directly below the pharmacy itself, accessible by means of stairs and lifts.

Another phase of pharmacy planning, and equally important, is the architectural treatment. Considerable thought must be given to this in order that efficiency may be attained and operating costs reduced to a minimum.

Interior finish, such as doors, windows, counters and wood slides must be of sound material and simple in detail. The slab type of doors may be best if of sufficient width to allow the passage of equipment and, except for vault or storeroom doors, they might be of some type of selected veneer. Dutch doors are practicable in small pharmacies instead of the customary sliding type of dispensing windows.

The dispensing window should be of the sliding type, provided with locks and of ample size to provide adequately for out-patient service. Borrowed lights at corridor walls will increase the general illumination of the pharmacy.

Exterior windows should provide an abundance of light and should also have suitable grilles to prevent loss of medicine by theft. Counters should be covered with a heavy gauge linoleum at dispensing windows. At work spaces counters should be of acidproof material.

Floors may be treated in many ways. Some prefer asphalt tile of several dark colors. However, cement paving, tile and terrazzo are quite satisfactory. In any case it is

well to remember that the floors of pharmacies, especially the mixing, manufacturing and storage areas, receive considerable wear. The pharmacist's office and waiting rooms may be treated with linoleum, rubber tile or any other substance where resiliency and freedom from cracks, as well as color treatment, are considered more desirable.

Lighting and electrical equipment will also require careful attention. The pharmacy itself is a laboratory and therefore sufficient ceiling and wall outlets should be provided so that the one thousand and one items stored on the shelving and racks may be easily seen. The number and plac-

or they may have the masonry walls treated with a cold water paint.

The heating of the preparation, office and waiting rooms should be the same as in other parts of the hospital. Storage rooms must have sufficient heat to prevent the deterioration of the numerous supplies. Ether and alcohol storage rooms should have electrically controlled vent ducts to provide complete changes of air.

Several sinks with all toilet accessories are essential. Soapstone has been found practical for general use. There should be a supply of hot and cold water. Near the sink a large earthenware table may be found useful to



Orderliness prevails in the Charles T. Miller Hospital pharmacy, St. Paul, Minn.

ing of electric outlets at counters, telephones, motors for centrifuges and burglar alarms should be gone over with the pharmacist so that the technique and efficiency of this department will be maintained.

It is well to locate the telephone at a distance from the prescription counter itself, as calls received here may interfere with the carrying out of prescription preparation.

Wall treatment in the pharmacy workroom should be either of glazed brick or glazed tile, if money is available, and plaster. In any case, the walls should be in fairly light colors to add to the general illumination.

Waiting rooms and offices may be painted. Usually the alcohol vault and storage rooms are left unfinished

provide space for bottles to be washed. In many cases drain piping should be of acidproof material such as vitreous tile, acidproof iron or lead.

It is well to provide gas and compressed air outlets. Several floor drains will be found advantageous in the work section of the pharmacies. A still, capable of making moderate quantities of distilled water, should be furnished with a unit of live steam such as is used to operate sterilizers and autoclaves.

The efficiency of the pharmacy must be maintained not only by its general planning but also by the correct placing of equipment and other features to facilitate a definite system of operation.

Where Nurses Live and Learn

THE planning of a building for the quartering and training of student nurses presents a twofold problem. Not only should the home provide adequately for educational, social and recreational activities, but the building must function as a practicable unit of the entire institutional group. That it may satisfactorily fulfill its purpose, the scheme should be studied in its supplemental relations to the central heating plant, the kitchen and the various departments of the hospital proper.

Standards set up by the National League of Nursing Education assist in establishing definite lines to which the training school must adhere in its courses of instruction and consequent space provision. Lacking such standards and influenced by an inadequate budget allowance, there would be a temptation to spend too great a proportion on less essential features. At the same time one must not lose sight of the fact that the standard of the students who enter, as well as their contentment through-

J. B. HILLS

out the period of residence, are definitely influenced by attractiveness of the surroundings and the recreational and social facilities.

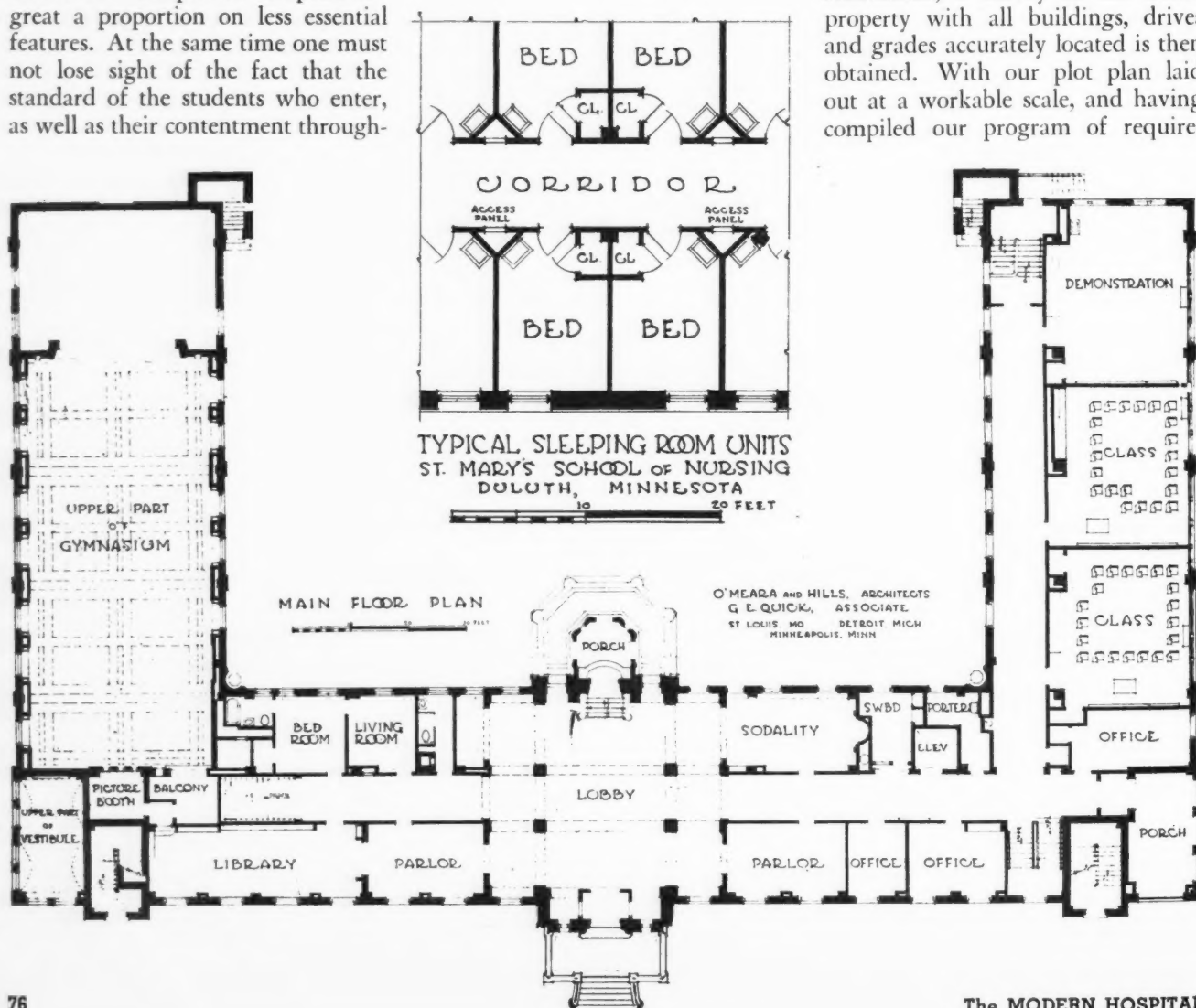
To approach the problem in an orderly manner, the first step is that of obtaining all pertinent data. How many graduate nurses, instructors and students are to be provided for? If the school is to be affiliated with some other educational institution, to what extent will this affiliation affect the laboratory, lecture and classroom requirements?

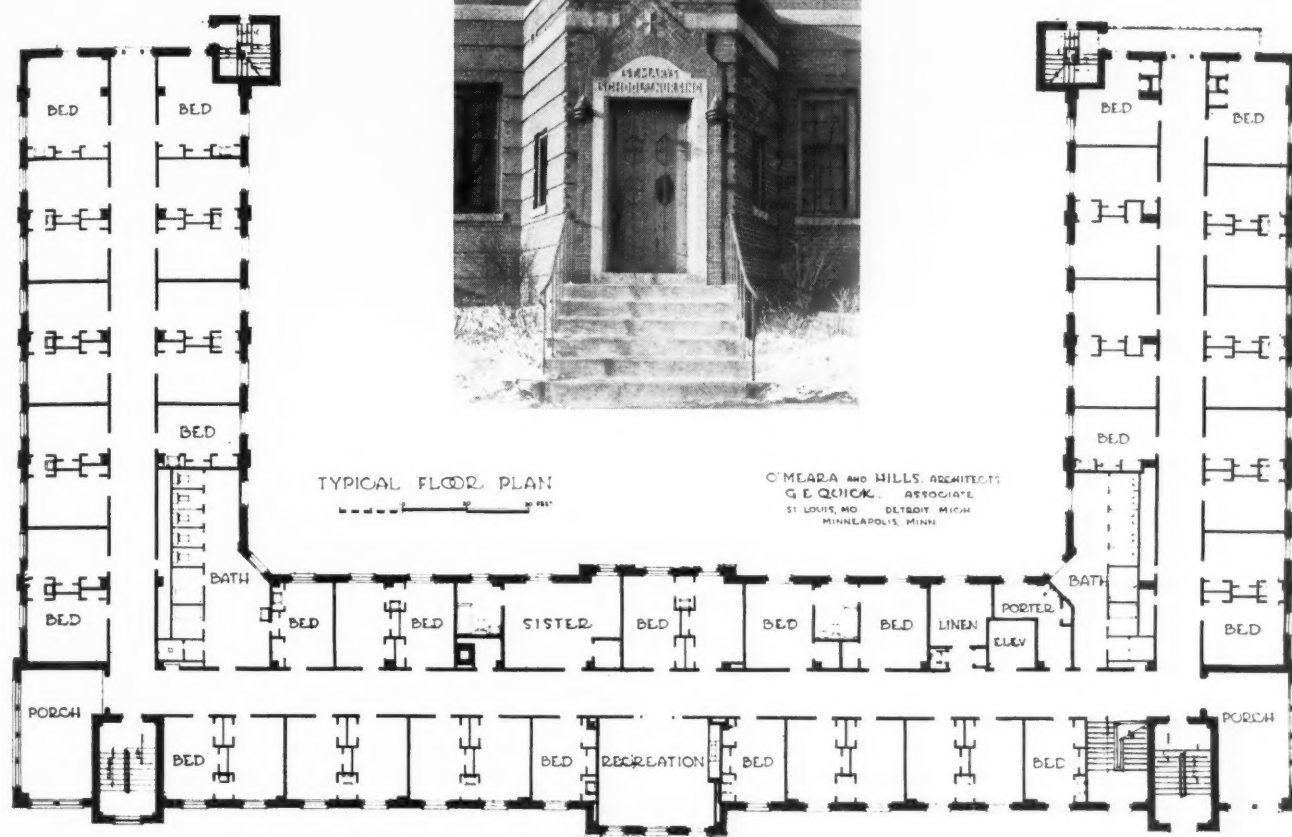
What are the possibilities of future hospital expansion with its resultant effect on the capacity of the nurses' home? Accurate data pertaining to the requirements and operation of

the proposed building cannot be overestimated as a preliminary requisite. If it is possible for the superintendent of nurses and the matron to visit several modern nurses' homes of requirements similar to those of the building in prospect, they may, by tactful inquiries among those in charge, avoid many mistakes that are accepted planning practice.

The foregoing advice is equally applicable to the architect. Unless he has checked and verified the performance of the institutions for the planning of which he has been responsible, he is not justified in duplicating many of the features that he has assumed needed no improvement.

Assuming that the hospital officials already are familiar with local and state building code requirements and restrictions, a survey of the entire property with all buildings, drives and grades accurately located is then obtained. With our plot plan laid out at a workable scale, and having compiled our program of require-





Entrance to St. Mary's School of Nursing, Duluth, Minn., showing modest materials used in an interesting manner, homelike and with no pretense. The two large floor plans are of St. Mary's School of Nursing in Milwaukee.

ments in a manner to show at a glance all possible relevant data, and with such additional notes as matters of personal preference of the superintendent and others in authority, we may now proceed with the business of planning.

By means of rough studies in block plan, the most advantageous location for the new building is determined. Often there is but one available location and it then becomes a matter of fitting the building requirements into the allotted space. When two or three sites are possible, there is opportunity to decide whether the building shall become an asset to the hospital group, or a mass of brick and concrete that will be a barrier to the most favorable ultimate development of the institution.

It may be assumed for the purpose of the preliminary studies that the ground and first floors shall be given over to administration, instruction, recreation and service, and that the floors above shall be for the most part typical, and devoted to dormitory rooms.

Taking into consideration the

heights of the adjacent buildings, and allowing approximately 10 feet between floors, one may readily determine upon the forms that will mass appropriately and conform to site conditions. Width of wings will approximate 34 feet and a few rapid calculations to determine the number of sleeping rooms required for each floor will give the approximate length of building required, and help select a form adaptable from the usual H, T, U, L or rectangular shapes.

Inasmuch as the typical floor plan is usually the main controlling factor of our final block plan, it should now be given careful study. The single sleeping room has so many advantages over the semiprivate room that under average conditions it may be considered as the accepted standard. It is sometimes thought desirable, however, to plan sufficient semiprivate rooms to accommodate approximately the additional number of entering students customarily "dropped" after the period of probation, permitting the housing of three new students in the same floor area

that two would occupy in single rooms. When semiprivate rooms are, for reasons of economy, chosen for the typical floor arrangement, one floor or wing of single rooms is sometimes planned and reserved for the use of the nurses assigned to night duty. However, such an arrangement does not always make for simplicity or economy in planning, nor does this system of changing sleeping quarters find favor among nurses.

The symmetrical grouping of two sleeping rooms about and adjacent to adequate service pipe shafts spells economy in both original construction and future maintenance.

The smaller plan on the opposite page is an example of a practical unit of this type of grouping as employed in St. Mary's School of Nursing, Duluth, Minn., and requiring but 100 square feet for each private room, including partitions, closets and pipe spaces. For buildings in the zones where warmer seasons are the rule, room sizes should be increased as much as from 10 to 30 per cent.

Typical room furniture usually consists of a bed, bedside table, dresser, desk and chair for each stu-

dent. Ample closet space and a lavatory with hot and cold water, a medicine cabinet, tumbler rack and towel bars should not be overlooked. In lieu of the standard closet with its plastered walls and wood door, a sufficiently large stock metal wardrobe may be built in and will save space and initial costs.

Centrally located lounging rooms, one for each group of twenty or more nurses, should be distributed throughout the dormitory floors. Sufficient larger sleeping rooms arranged in pairs with connecting baths between are usually provided for the graduate nurses and instructors.

Such features, when arranged typically for the superimposed floors, will simplify the mechanical and structural layouts, eliminate much furring of pipes and result in lower building costs. Toilet rooms with fixtures in the ratio of four tubs, two showers and six toilets for each thirty beds served should be conveniently located.

Utility closets, rubbish and laundry chutes, linen rooms and elevator shafts are arranged to utilize the less valuable wall space and to cause minimum disturbance to residents. Elevator cabs should be designed to accommodate a stretcher. Stair halls are better separated from the main corridors by doors.

Each floor of the home should have its drinking fountain and its telephone pay station booth, and the practice of providing a small but well-equipped laundry on each floor, for the personal convenience of the students, is preferable to the usual community laundry on the ground floor.

Sleeping porches and a few airing decks, as climatic conditions may indicate, should be located in a manner to enhance the exterior elevations and to assist in the natural lighting of the corridors.

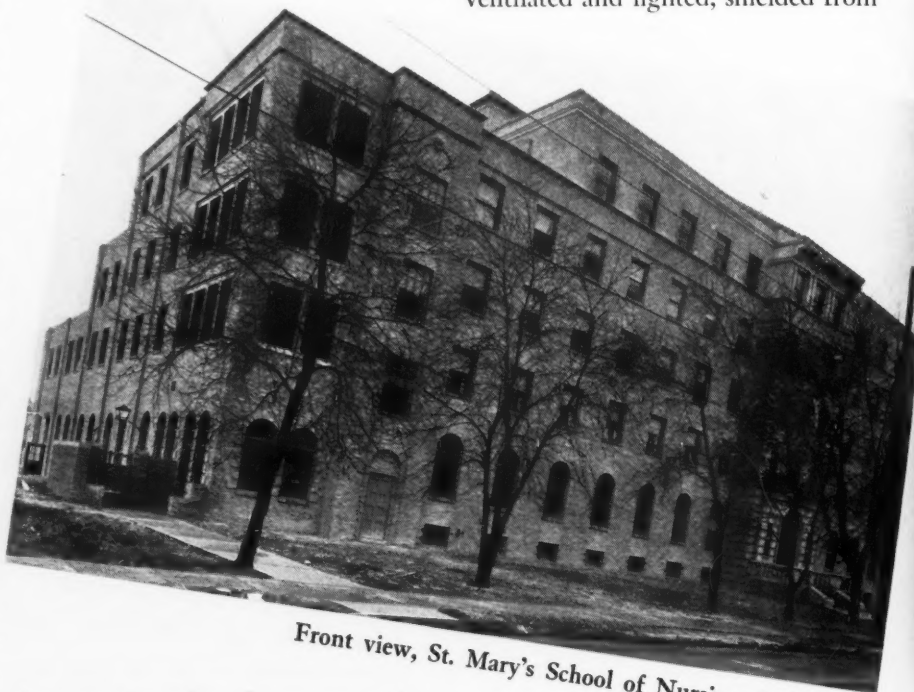
If possible, the architect should try to make the rear elevation as attractive as the front. Housing of fire escapes does much toward accomplishing such a result, as may be seen in the photograph on the opposite page.

A study of the typical dormitory floor plan of St. Mary's School of Nursing, Milwaukee, shows the

sleeping rooms arranged with connecting lavatory alcove. Here the familiar U-plan allowed considerable elasticity in dormitory floor capacities owing to the "stepping off" of superimposed floors in the wings. Such a treatment not only adds interest to the exterior but affords a means of readily increasing the build-

office. The post office, if not located in the main hospital in connection with the nurses' dining room, should have a place in this same unit, but located to avoid congestion. Glass partitions between the several offices, with adjustable shades to ensure privacy when required, will facilitate supervision and promote efficiency.

The library should be roomy, well ventilated and lighted, shielded from



Front view, St. Mary's School of Nursing, Milwaukee.

ing capacity when future expansion of the school of nursing may make it necessary.

Having decided upon a typical floor plan, the main floor is studied in a manner to conform. The plan of St. Mary's at Milwaukee illustrates a very satisfactory main floor arrangement. While the main entrance should be subordinate to the public entrance to the hospital, it still should be inviting and easily located. An attractive lobby at once impresses a visitor with the fact that he is in a private club or a home and not an institution. Here is one room in which the most disconcerting budget should not be allowed to frighten the interior decorator away. There should be numerous alcoves to provide semiprivacy for small visiting groups, and adjoining parlors or waiting rooms suitable for private interviews.

Information desk, switchboard and administration offices for the superintendent of nurses, should be accessible from the lobby, having good communication to the director's

prying visitors and distracting noises. In some of the smaller nurses' homes this room is planned to serve in the additional capacity of a study hall for the student group.

The demonstration room, class and lecture rooms and the required instructors' offices should be grouped apart from the mainly traveled corridor.

This department should be carefully planned in accordance with deliberate counsel of the staff. The dietetic and chemistry laboratories usually are equipped for sixteen or twenty students, and may be located on the ground floor if the space available is well lighted. Bacteriology and chemistry are often taught in the same laboratory, and in the smaller schools, both dietetics and chemistry are taught in the same room. Class and lecture rooms, if separated by soundproof folding partitions, permit flexibility in student grouping and a more efficient employment of space. The same rules

of orientation, lighting and ventilation that apply to public school rooms are equally applicable here.

The standard unit ventilators, as manufactured by several reputable concerns, furnish ideal means of supplying schoolrooms with clean fresh air at a minimum of initial and maintenance cost.

The auditorium may often be located most economically on the top floor, but for ease in handling crowds when holding plays or dances, lec-

lobby or front corridor. This permits construction of a balcony overlooking the main floor and a ceiling height extending to the level of the main floor ceiling.

The kitchen and serving rooms, lockers and shower rooms are then easily accessible to the auditorium from the lower level. The typical floor scheme may be carried up above the main floor ceiling, or the roof may be treated as a promenade deck with access from the second floor.

Other ground floor space should provide for general and linen storage and sorting, sewing room, por-

A kitchenette and lunchroom, preferably in connection with the auditorium serving room, should be provided to serve guests or late breakfasts to nurses on special duty. This room also serves for candy making by the students and for the preparation of snack lunches. Provision must be made either in the main hospital or the nurses' home for the nurses' registry and for rest and locker rooms for nonresident nurses.

When plans and elevations have progressed through the sketch stage it is now of prime importance that owners and architect review every phase of the project. Telephone, clock, signal and radio systems, air



Rear view, St. Mary's, Milwaukee.

tures or gymnasium classes, a location on one of the lower floors is preferable.

This room should have a positive system of ventilation and a stage suitable for commencement exercises and small plays equipped with borders, footlights and dressing rooms. The space beneath the stage should be accessible from the auditorium floor by means of outswinging panel doors, and rolling racks for the storage of seats when the floor must be cleared for gymnasium work or dancing. Either a motion picture booth or outlets for a portable projection machine should be provided. Facilities for serving food from an adjacent pantry should not be overlooked.

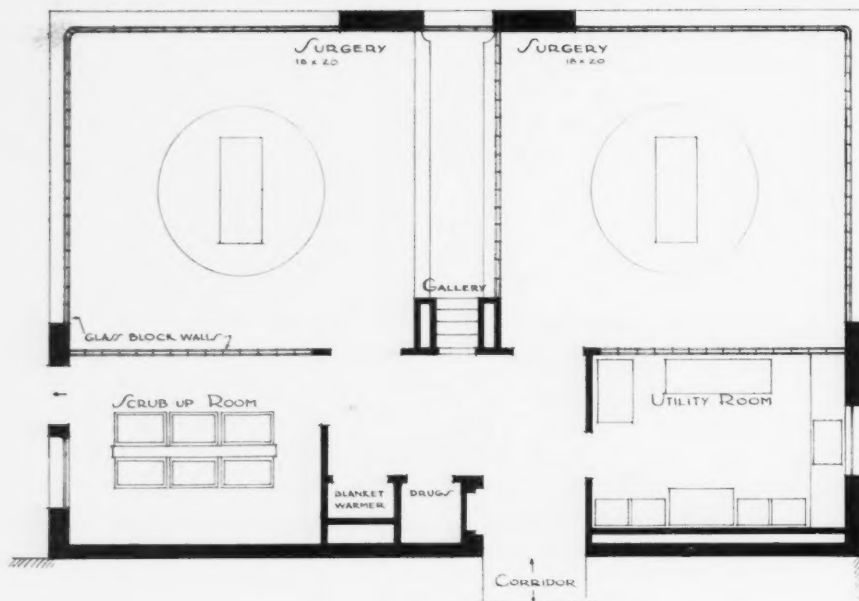
A scheme that has worked out satisfactorily in many plans is that of placing the auditorium floor on the ground floor level, with an ample stairway leading from the main floor

ter's room, elevator machinery, incinerator and storage of trunks. The last room may best be laid out with 6-inch concrete platforms about 5 feet wide, and surrounded by trucking aisles 3 feet wide. Platforms of lesser width are arranged along the walls. Access from the ground floor by tunnel, or from the main floor by covered passage, should furnish direct communication to the main hospital building. This communication should permit access to the dormitory floors without passage through the public lounge.

To avoid duplication of food service, cafeterias and dining rooms for student and graduate nurses are customarily located in the hospital building with direct communication from the main hospital kitchen.

conditioning provisions, heat control devices and lighting arrangements must be discussed as to their extent, purposes, operation and approximate costs, in order that the building may be well-equipped mechanically.

Floor and finish materials, room sizes and capacities, cabinet, fixture and door locations must be thoroughly understood and all doubts must be eliminated and differences of opinion ironed out before final working drawings are begun. The life of the student nurse is so filled with discipline, irksome tasks, and long hours that when we have the opportunity let us provide her with pleasant surroundings and make her home truly a home.



A Modern Surgery

HERINA I. EKLIND

A THREE-STORY reinforced concrete fireproof wing having two surgeries, a utility and a scrub-up room on the second floor, laboratory and pharmacy on the first, and boiler and work shop in the basement, has recently been completed for the Swedish Hospital in Seattle.

The two surgeries are adjoining the present operating unit and embody the most recent architectural and mechanical developments. They are corner rooms, 18 by 20 feet, with an observation gallery between.

These rooms feature the use of glass block walls to give them the maximum of natural light and sanitation, as illustrated in *The MODERN HOSPITAL* for May, 1937. Absence of windows allows complete control of temperature and humidity. At the outside corner of each room the roof has been cantilevered, allowing an unbroken wall of glass around the corner and for a distance of 16 feet at each side. The interior walls separating the surgeries from the utility and scrub-up rooms, respectively, are also of glass blocks.

The blocks used are made of heat-resistant glass, hermetically sealed,

producing in effect a vacuum in the block, which eliminates condensation on the glass and produces a high insulation value. The inside faces of the blocks have scientifically designed fluting, and this gives a high diffusion of light, obscures images and eliminates any possibility of a lens effect. The smooth outside surfaces

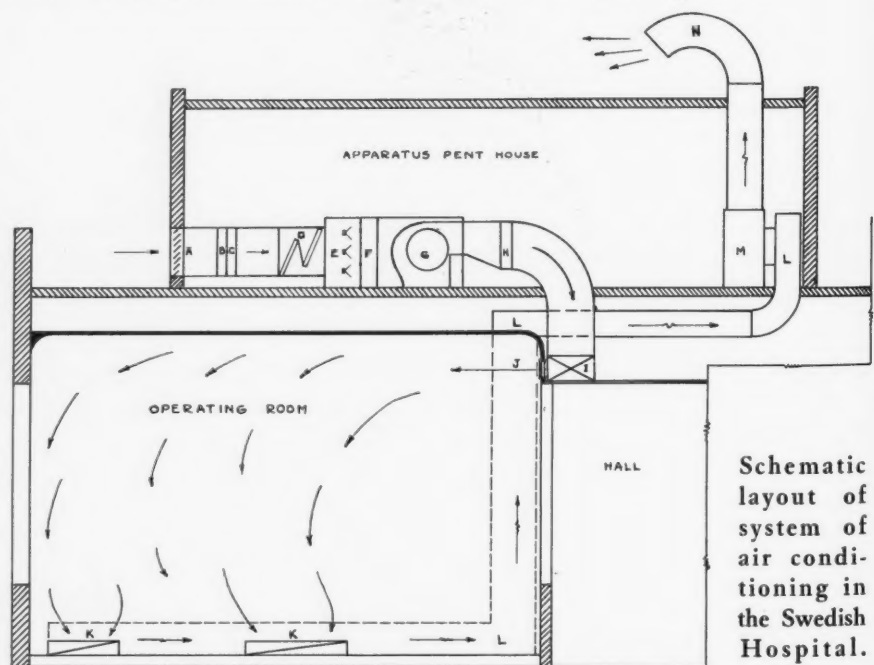
provide for maximum sanitation and ease of cleaning. The small portions of the wall required for structural support are covered with a dull green tile to harmonize with the vitrified nonabsorbent tile used on the floor.

Lighting is provided in each room by a large circle of ten recessed lights directed through lenses to give a shadowless light of 500 foot candles on the operating table. Cabinets and utilities are recessed so that floors, walls and ceiling form one continuous surface, unbroken by any dust-catching surfaces.

Complete air conditioning provides for a maximum air change every five minutes of filtered, washed, humidified and heated air in winter and filtered, washed, dehumidified and cooled air in summer. A special control has been installed to maintain a constant relative humidity of from 48 to 55 per cent, which will dissipate static electric charges in the room.

The air conditioning system for the new operating rooms was designed to maintain a minimum temperature of 75° F. with 50 per cent relative humidity when the outside conditions do not exceed a temperature of 85° D.B. and 65° W.B. and with an internal load of not more than six people and not more than 3,500 watts of lighting in each operating room.

In winter, when the outside temperature is not lower than 10° F., it will maintain a temperature of 74° F. with 48 per cent relative humidity within the operating rooms.



Schematic layout of system of air conditioning in the Swedish Hospital.



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Private Floor Supervisor

JOSEPH C. DOANE, M.D.

THE private department in a general hospital requires of its supervising nurse not only a meticulous attention to scientific detail and nursing technique, but also the possession of a tact, calmness and culture not required to the same degree elsewhere. She must represent a dual individuality; she must have a hostess-like personality and yet be dignified and professional.

The supervising nurse of the private floor is brought in contact with a patient psychology not encountered elsewhere in the hospital. Because private patients usually have a high economic and social station in the community, and because they are paying for their hospital service, they are likely to be far more exacting than the patients in any other hospital division. This nurse is required to please patients from the purely physical side, and at the same time enforce floor regulations as to visiting, diet and quietness—duties so divergent in nature that they are not easily reconciled.

Staff Insubordination

To complicate the situation still further, she is brought into a precarious relationship with private duty nurses. Frequently private duty nurses working in a department of this type object to supervision by the floor supervisor, preferring to answer to the superintendent of nurses, or else refuse to answer to anybody.

A situation of this sort is likely to arise because of the feeling of the private duty nurse that, since she is being paid by the patient after having been selected by the doctor or by her employer, hospital rules do not cover her activities. This, of course, is the wrong attitude. Disciplinary and administrative supervision on the private floor should follow straight lines beginning with all nurses, general duty, pupil and private duty nurses, and extending to the superintendent of nurses.

Another angle that complicates the work of the private floor supervisor is the impossibility of applying generalizations to the private department applicable in the wards. Each patient is likely to represent a rule unto himself. The doctor is striving to give satisfaction to the one who is employing him. He desires that everything should go smoothly, and to accomplish this end he has in the floor supervisor or in the private duty nurse his greatest ally. The floor supervisor is working under many routines. On the ward only one or two physicians are in charge.

Routines Impossible

Routines are easily developed there, such as the type of laboratory work to be performed in certain cases, the method to be employed in the treatment of distension in typhoid fever or of hyperpyrexia in pneumonia. Routines are almost impossible to develop to this degree on the private floor, not only because there are often almost as many physicians as there are patients, but because these physicians are of all classifications in the hospital, *i.e.* chief, associate and courtesy.

It is not always true that those who pay most for their care are most likely to be exacting and complaining. This attitude varies with the individual. On the other hand, patients in the private suite are more likely to insist upon a more refined type of service. One of the greatest difficulties is the inability of the patient to mold himself into the daily routine of the hospital. When a patient who has lunched at 2 o'clock and dined at 8 o'clock for many years is required at the hospital to alter these hours to 12 and 5:30 o'clock, respectively, as well as to revise most of his other habits on short notice, it is surprising that the private floor is not more tempestuous than it actually is.

It is important that the private nurse contact and appease the socially and economically important

The model private floor supervisor whom the editor of *The MODERN HOSPITAL* portrays this month would be a "phantom of delight" to the administrator of almost any hospital

persons in a community, meet their relatives and friends on a semisocial basis, and yet not forget the reason for making these acquaintances. She should always manifest professional dignity and reserve. It is probably unwise for the floor supervisor to accept entertainment at the homes of her patients, and certainly it is wise for her to refuse tips and presents of any kind.

The housekeeping of the private floor is not always under the supervision of the head nurse. Throughout the field this work is assigned to the housekeeper as often as it is to the head nurse. In other instances ward maids and porters answer to the private duty supervisor. When this is the case, cleanliness and orderliness of the floor are her direct responsibilities. When the floor nurse is not assigned housekeeping duties, notice should be given to the supervising nurse before patients arrive for admission that rooms may be opened and aired, final inspection for cleanliness and orderliness be made and the final welcoming touches such as flowers, greeting cards and personal toilet equipment be properly provided.

Too often the private room is prim and stiff, not too tidy, and anything but homelike. The effect of such surroundings on the sick cannot be minimized. No wonder the patient objects to leaving the sunny, well-ventilated, cheerful bedroom at home to enter the often frigid, hit-and-miss surroundings of a hospital private room. Tactful and ingenious supervising nurses often bring about the

adoption of pleasing color schemes by suggesting colorful draperies and bed coverings. In a few hospitals local clubs have been interested in furnishing private rooms and in such instances a friendly rivalry has resulted in the hospital being supplied with splendid equipment and attractive furnishings.

No private room supervisor can supply a smoothly running service unless she has been given certain physical aids. The diet kitchen should be properly located so as to save as many steps as possible. Her relation to the serving of diets will depend upon the system in use. Whenever possible central service should be the rule and the institutional dietitian should be responsible for both the preparation and serving of foods and nourishments. It is inefficient for diet trays to remain in the diet kitchen until the food is cool. Often coffee and tea are made on the private floor and it is the supervisor's duty to see that they are prepared properly. It is also her duty in many institutions to deliver menus to private patients and to see that they are properly checked and sent to the diet kitchen. Under a central service plan this work devolves upon the dietary department.

Equipment Watchdog

It is often the duty of the private floor supervisor to prevent the loss or misuse of dishes, napkins, silver, linen and other floor property. In an Eastern hospital a superintendent found that it was necessary to lock electric fans in a built-in cabinet to prevent their appropriation. The loss of hospital linen, towels, sheets, pillow cases, vacuum bottles, silver and other private room necessities is astounding. It takes a skillful nurse to salvage linen and other articles in private rooms that later might find their way out of the institution. To do this without offending the patient requires a greater artistry.

The utility room should be centrally located so as to economize the nurses' time and effort. Its enamel or stainless steel ware and rubber goods should be in good repair, and warming closets, bedpan sterilizers and instrument cabinets, modern, ample and efficient. Private room supervisors should not be treated in

a niggardly fashion when it comes to supplying nursing equipment. Each private room should have a complete set of nursing articles, including bedpan, soap dishes and wash basin. A private floor cannot be made to appear tidy unless a stretcher and wheel chair alcove has been provided and steps taken to prevent the walls from being marred by movable equipment. A cold room for flowers and a smoking room for visitors and for those who must wait when a critical illness exists are most necessary.

Scientific Proficiency

Much has been said of the work of the private department supervisor on the physical side but little from a scientific angle. She must be prepared to perform dressings for the surgeons at all hours; she must be able to supply an oxygen tent or obtain any other article without loss of time. No matter what is asked of her, whether it is a certain morning paper, a particular type of food or drink or an unusual kind of dressing, she must never display irritation or hesitancy. She must be able to insist that performance of minor surgery in a private room to save an operating room fee shall not be permitted and she must do this without being impertinent or uncooperative. She must evade a direct question by relatives as to how a patient is progressing and avoid expressing an opinion as to the type of surgical service rendered by the physician in charge.

Her general conduct with the patient's family is highly important to the welfare of the patient and hospital. By her calm demeanor she may do much to compose a distressed family. She supplies reading material, she obtains a chiropodist, a hairdresser or any other type of person desired by her guests. She represents to the private group generally a sort of combined social worker, hospital mother and general factotum with a little of the hotel manager thrown in for good measure.

The supervisor of the private department should be able, without appearing surprised, to fulfill requests to telephone a patient's home to remind the household that the family pets should receive their food regu-

larly, to shop at the corner drug store, to control a hammering steam pipe and to solve the problem of mice or roaches in the room—all this and more without any sign of perturbation.

The most remarkable things can happen in private rooms, as is evidenced by an incident related by an important business man. A few hours after returning from the operating room he observed pipes leaking water into his room. In spite of his serious condition he reported the leak to the nurse. The water continued until the hospital fire alarm system automatically went into action because of a short circuit and his room became flooded so badly that his nurse was forced to don boots.

The supervising nurse must expect to meet a combination of any number of unusual occurrences. She must be able to insist that the private duty nurse should not circumvent the intern in making reports to the surgeon. She is correct in her contention, although this procedure represents a common administrative error. The refusal of a chief to permit his intern to accompany him into the private room, thus removing responsibility for the writing of orders and histories, is another situation she must circumvent.

Tactfully Courteous

Handling visitors to private patients is a difficult task. Since visiting periods are long, often from 11 a.m. to 9 p.m., to perform the work necessary to the patient requires repeated dismissal of friends and relatives from the sick room. This must be done tactfully, but firmly. The control of noise is as important as it is difficult. Thoughtless visitors seem often to forget that they are visiting in a hospital, not a hotel. Radios are likely to be turned too high and occupants of adjacent private rooms disturbed. Under such circumstances the supervisor must be a police officer and yet be so tactful and courteous that others do what they do not wish to do without being annoyed. Finally, she must be able to suppress gossip, to maintain dignity and morale, and to be a kindly, smiling nurse hostess to newcomers and to those who are departing to complete convalescence elsewhere.

This Way to the Warehouse

THOMAS K. GRUBER, M.D.

FOR several years there had been need of a building that would bring the supplies under more direct and closer supervision at the Eloise Hospital and Infirmary at Eloise, Mich., an institution of nearly 3,000 beds. A warehouse, designed primarily to concentrate in one location most of the hospital supplies, was the answer. Construction was completed last year.

Financed partly by a federal loan and grant, the total cost of the warehouse building was \$313,793; of this sum \$81,600 was federal money.

The building is a three-story structure of reenforced concrete, flat slab type. It is faced with brick. Its floor area is approximately 69,500 square feet, of which 41,200 square feet is arranged into general storage space and 18,300 square feet is refrigerated storage area.

For convenience in shipping the building was located adjacent to a railroad spur. A loading dock about 100 feet long runs along the railroad

spur on the south side of the building, thus permitting three box cars to be unloaded at once. The platform is level with the second floor.

General architectural lines of the building are modern. The windows are of the industrial type with steel sash. The roof is covered with a tar and gravel composition.

In the north central wall of the building is a trucking space, 27 feet wide, enclosed with an overhead door with a platform serving the shipping room inside of the building. The trucking platform and the first floor are on the same level. Just east of the trucking entrance is the area assigned to offices, comprising a floor area of about 600 square feet.

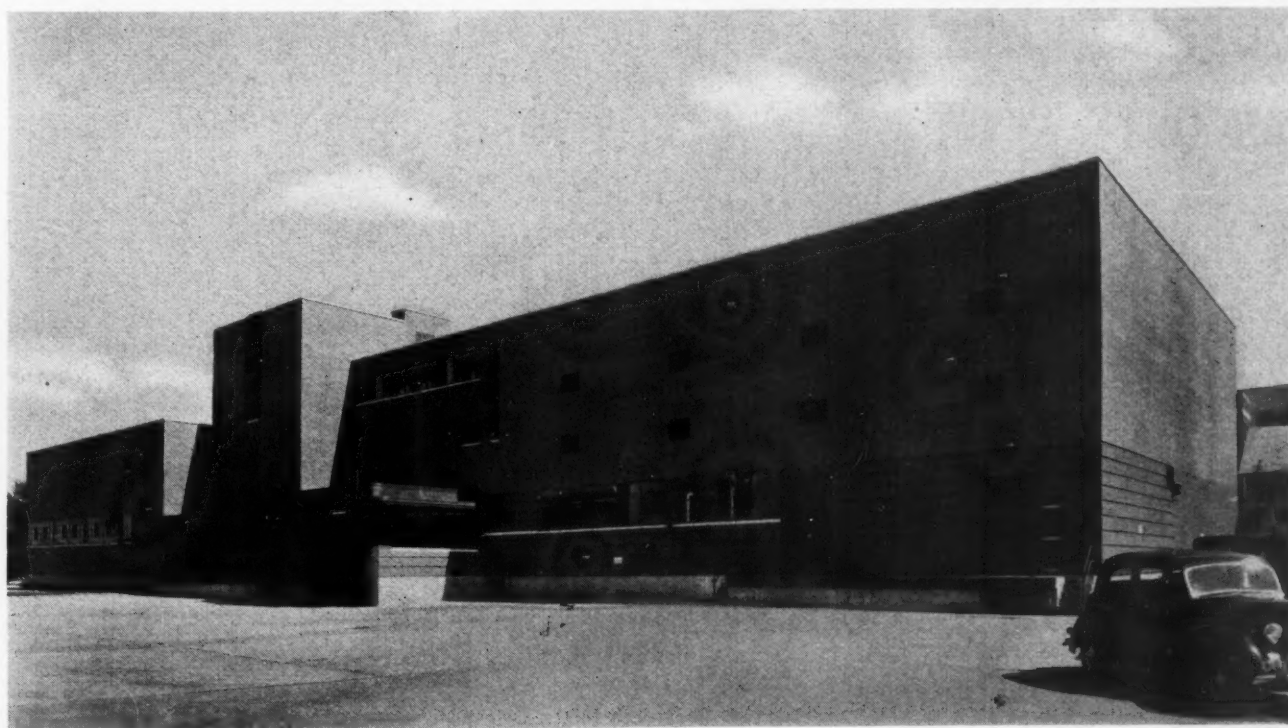
On the first floor the general storage space is divided into sections for

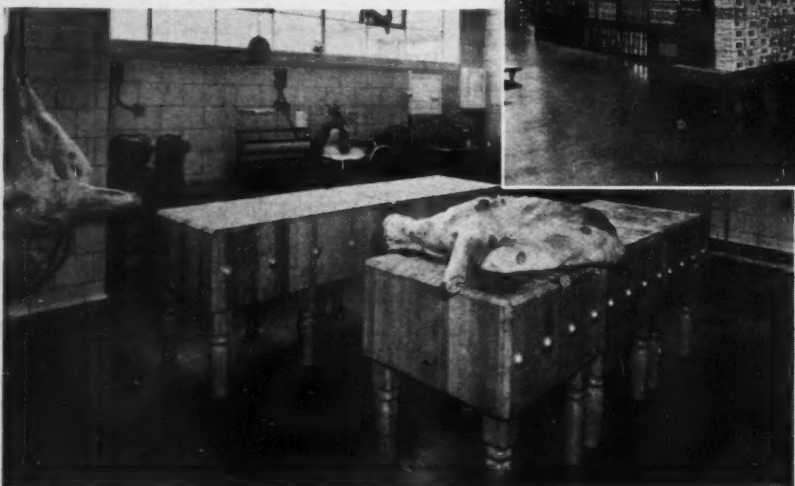
building supplies, bulk groceries, medical and office supplies and canned food stuffs. New equipment, kitchen supplies and furniture take up the second floor storage space, and cotton clothes, tobacco and shoes are stored on the third floor.

Floors in the larger storage areas are of cement, which has been given a special finish, to provide a surface that will stand up under the hard wear that floors in a building of this type receive. Office floors have been finished in asphalt tile. Toilet rooms have terrazzo floors.

In the general storage space the wall finish is sand and lime brick. Tile walls are used in the offices, the butcher shop, the machine shop and the toilets. The refrigerator storage walls are finished to wainscot height with tile and above with cement plaster. All refrigerator units are well insulated with cork. At the trucking platform, in the incinerator

The warehouse at Eloise Hospital and Infirmary, Eloise, Mich., is of reenforced concrete faced with brick.





condensers, brine pumps, ice-making tanks and the like. About two tons of ice can be produced in twenty-four hours.

The incinerator and paper baling room and the can sterilizing room are placed at the extreme east end of

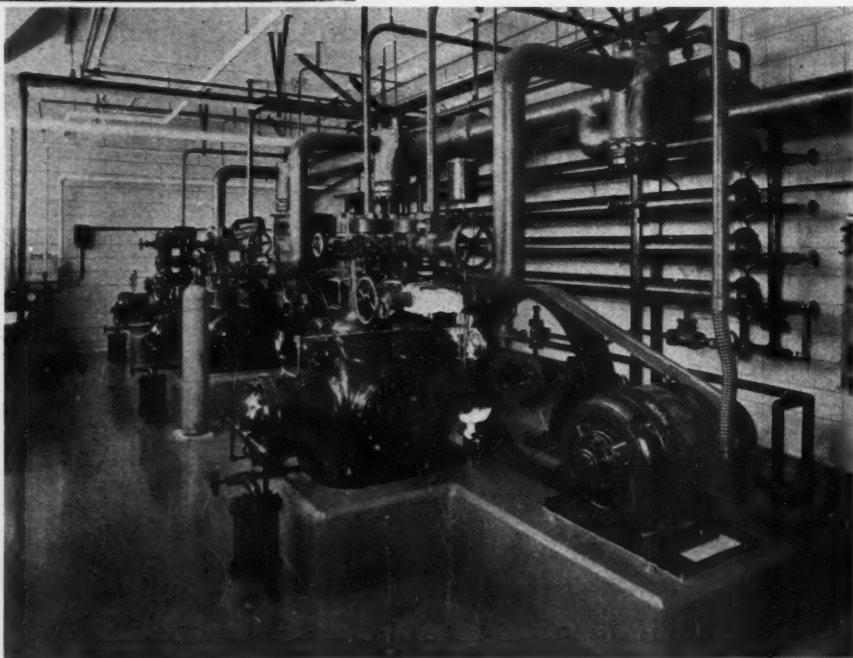


Above, left: Quarters of beef hang from the rail track, which extends from the shipping platform. Directly below is the butcher shop. Above is a section of the grocery distributing room on the first floor. Below: Three 20-ton carbon dioxide compressors in the cold storage room.

and in the sterilizer rooms the wainscot is lined with paving brick.

Besides the butcher shop on the first floor the cold storage units on this floor include separate refrigerators for pork and beef and refrigerators for fish, meat and rubber goods. The floor area in the pork refrigerator is about 1,200 square feet and the beef refrigerator is twice this size. A rail track for meat extends from the shipping room platform to the pork and beef refrigerators. The rail is suspended from the ceiling and there are about 250 linear feet of rail in the pork refrigerator and 500 linear feet in the beef room.

The second floor of the refrigerator units has a floor area of 5,750 square feet, all of which is used for storing potatoes. Cold storage units on the third floor are divided to form two vegetable refrigerators, egg, cheese and butter refrigerators, a dried fruit room and two wool vaults. The refrigerators are cooled by a brine circulating system which has galvanized iron coils located above bunkers in each refrigerator.



Proper temperatures are maintained by means of thermostatic control.

The machine room is located in the northwest corner of the building. Its equipment includes three 20-ton carbon dioxide compressors with standard auxiliary accessories such as

the building. Transformer and switch rooms serving the building are located on the first floor in a corner of the general storage unit.

Two freight elevators, located next to the trucking entrance in the center of the building, serve the floors.



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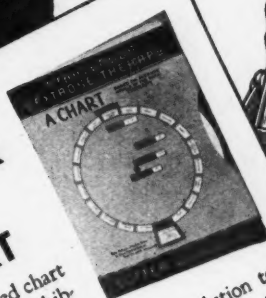
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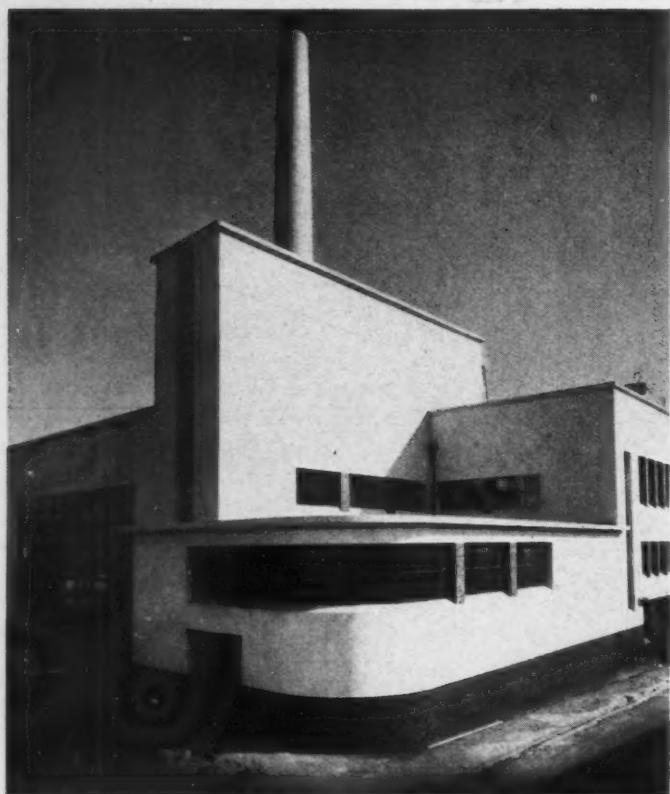


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Saftiflasks



Power Station in Color

A. G. STEPHENSON

CONSTRUCTION of a new power station for the Royal Prince Alfred Hospital at Sydney, Australia, was decided upon after it became evident that the addition of Gloucester House (a block for private and part-paying patients) and a new x-ray department would seriously overtax the facilities of the old power house. Both of these new additions to the hospital are described in *The Modern Hospital* for December, 1937.

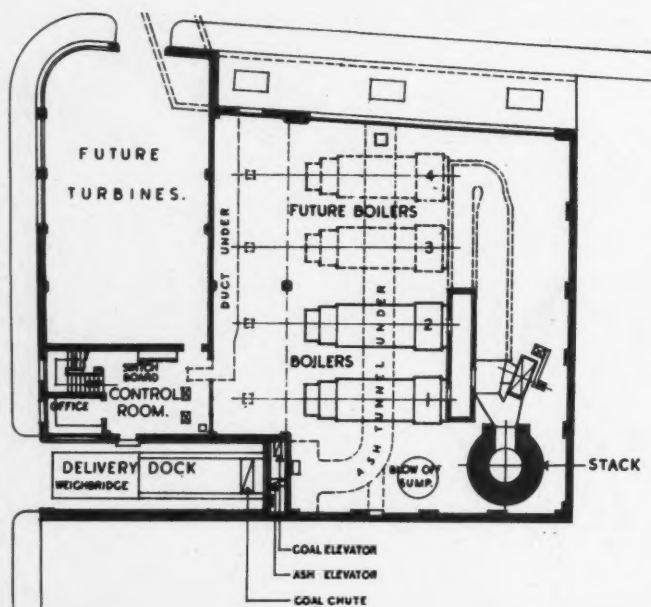
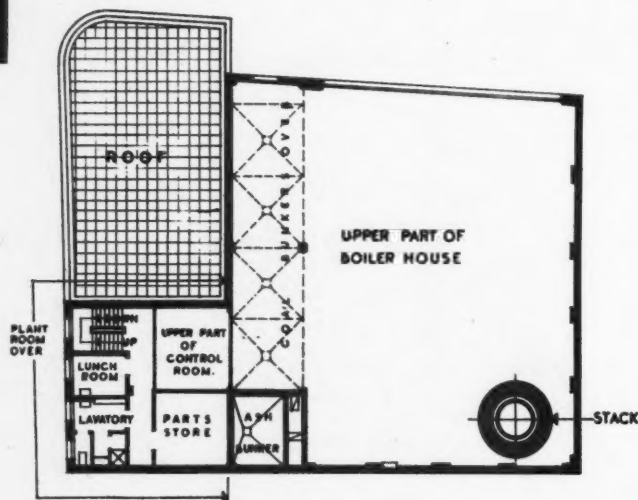
Two important considerations pointed to the advisability of substituting an entirely new unit for the old one. These were first, that the hospital was planned for an ultimate extension and there was no possibility of the already insufficient

Strong contrast and primary colors are used to achieve striking color effects in the power station of Royal Prince Alfred Hospital, Sydney, Australia. Exterior walls are white with a base of black brick and black brick mullions at the windows. A 26-foot window lights the boiler room on the left. Coal bunkers are housed in the center block.

plant coping with the extra demand, and, second, a substantial saving in running costs could be effected by changing over to coal, since it had been proved that the old oil burners were not economical.

The new coal burning boilers have been designed to carry the full winter load of the present hospital when steaming together. They are capable of producing 10,000 pounds of steam each per hour. Provision also has been made in the boiler house for the installation of two more boilers. When installed, three boilers will be able to carry the future completed hospital of 1,200 beds, with the fourth boiler as a stand-by.

The boilers are fitted with compartmented stokers and are designed to give high efficiency over a wide range of operation, so that eco-



Plan of the first and second floors of the power plant. Note the provision for future turbines and boilers, the use of a ventilated ash tunnel under the boilers and the use of overhead coal bunkers. Architects were Stephenson, Meldrum and Turner, Sydney.

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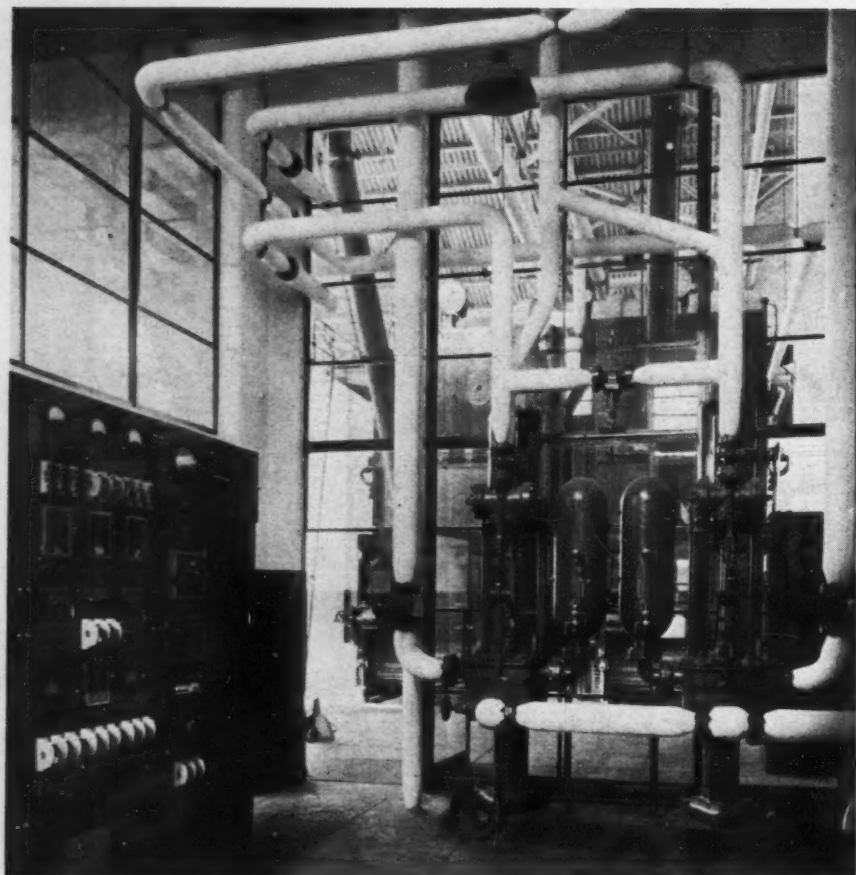
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THE AMERICAN HOSPITAL SUPPLY CORPORATION
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Control room. On the left is the main switchboard containing steam meters, temperature indicators and controls for all motors. Feed pumps are on the right.

nomical results will be obtained under any conditions of steam demand from the hospital.

Steam will be generated at a pressure of 150 pounds per square inch and will be passed into the existing hospital reticulation through two 6-inch steam mains carried in a tunnel from the boiler house to the existing hospital. Either main is capable of carrying the whole supply in case of breakdown.

The boiler plant has been designed with the possibility in view that the whole of the electrical energy needed by the hospital might be generated as a by-product of the ordinary steam demand, the electrical energy being developed by the steam in its passage from the boilers through turbines into the hospital mains.

The established fact that the electrical demand of this hospital varies almost identically with the variation of the steam demand forms a perfect case for the cheap generation of electrical energy.

With the possibility of electrical generation in view, the boilers have

been designed so that in future the working pressure can be increased to 250 pounds per square inch. In this event superheaters would be installed to increase the steam temperature to 600° F. The turbine room in the boiler house has been designed to accommodate turbo-generators and associated equipment in the future.

Condensate from all steam-using apparatus in the hospital is collected and pumped back to the hot well in the boiler house. This hot water forms a large proportion of the boiler feed water, thus reducing waste of heat and water to a minimum. Cold make-up water is chemically treated, de-aerated and heated by steam exhausted from the feed pumps before being added to the condensate and passed into the boilers.

The installation is equipped with the most modern indicating and recording instruments, which enable the engineer to obtain economical and efficient operation of the plant with ease and precision.

These instruments include electrically operated steam meters to indicate and record the flow of steam from each boiler to the hospital; electrically operated CO₂ indicators and draft gauges to permit the fireman to obtain efficient combustion and an electrical temperature indicator, showing flue gas temperatures at points in the two present boilers, with provision for points in the future boilers and economizer. A feed water meter measures the total water supply to the boilers. Illuminated indicators on the boiler control panel show the water level in each boiler.

Each motor in the installation is connected to a set of pilot lights on the control room switchboard. This enables the boiler attendant to see which motors are running and which motors, if any, are defective. The control room is mechanically ventilated.

Coal is handled mechanically by electrically driven elevators and conveyors and stored in overhead bunkers. Chutes convey the coal to the stokers. Ashes are mechanically handled in a tunnel beneath the boilers, elevated to a storage bunker and discharged into trucks. The ash tunnel is mechanically ventilated.

The structure is of reinforced concrete and brickwork, the facing bricks of the 150-foot stack being cream without moldings and finished with a broad black band. One wall of the boiler room, which is 40 feet high, is almost entirely of glass interrupted only by red painted steel sash. Cost of the structure was approximately \$130,000.

The color treatment is particularly striking, effects having been gained by strong contrast and primary colors, these being considered most suited to a power station. The exterior walls are rendered white with a deep base of black brick and black brick mullions at the windows. Steel frames and roller shutters have been painted a strong red. Internally the walls are rendered cream with a dark blue-gray base. The machinery is black and white with strong touches of red and blue.

It is proposed to complete the new service block later by the addition of a new laundry adjoining the power station.

...THERE IS ALWAYS A
Reason
FOR

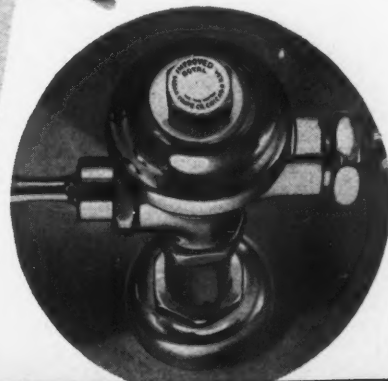
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SLOAN *Flush* VALVES

Listening In at Sunny Acres

R. H. BROWNING, M.D.

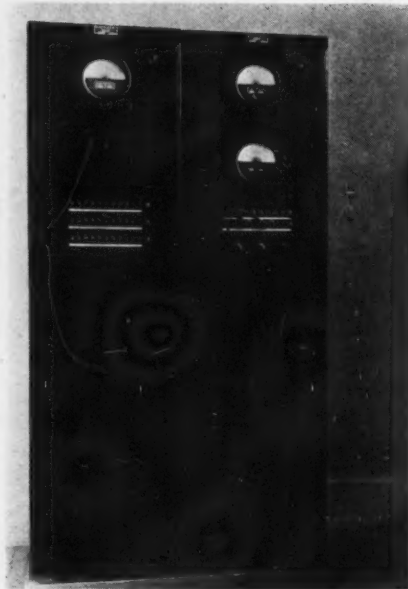
THE three-channel public address and radio system installed at Sunny Acres, the Cleveland tuberculosis sanatorium, provides for a maximum of flexibility and has proved satisfactory.

The three channels ordinarily provide three different programs available simultaneously to all patients. If for some reason it is decided to put one program on all three channels, this can be done through a master outlet jack.

The wiring is arranged so that the different divisions of the hospital are on separate circuits. A circuit may be switched in or out on available programs without disturbing reception in other parts of the hospital. Thus, the program for the adult building need not be available in the Children's Colony, if it is unsuitable for children.

In addition to headphone connections at the bedside, loud-speaker outlets are located in various recreation rooms, dining rooms and in the auditorium.

Moreover, the system is not entirely dependent upon broadcasting companies as microphones are located in the auditorium and in several of the offices. This system also may be used for a variety of local broadcasts, including educational features and regular school work for bed patients,



The central radio unit has three rows of switches, each row controlling a unit.

talks on tuberculosis treatment and entertainments in the auditorium.

The central radio unit itself is compact. In the left panel are three rows of switches, each row containing eleven switches. Each row controls one of the three channels and each switch controls a special circuit.



The flexibility of the system permits a variety of local broadcasts such as music and talks on tuberculosis treatment or school work for the bed patients.

The three circular dials at the top of the two panels are three radio tuners which are connected with three amplifiers. Individual volume controls for each channel are located on the right panel near the center.

Placed on the right panel, beneath the two radio tuners, are a series of three patch cords which look like a small telephone switchboard. These patch cords interconnect the various input circuits, including the microphones in the offices and the auditorium, with the desired outlet channels. This arrangement permits a switch from radio programs to local public address programs.

A time clock automatically turns off the power at 10 p.m. and turns it on again at 7:30 a.m. This clock also switches the system off during the afternoon rest period from 2:30 to 4:30 o'clock.

Wiring of the building, which has been the largest part of the undertaking, was done as a WPA project. This required channeling of walls and installation of conduit wiring system and three-jack outlet plates at the head of each bed. The wiring is now about two-thirds completed.

The cost of the radio equipment, not including wiring of buildings, was \$1,400. Because the wiring was a WPA project an exact figure for its cost is not available, but it approximated between \$10,000 and \$15,000. The tuberculosis sanatorium has a bed capacity of 430 patients.



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solves the problem of pediculosis quickly

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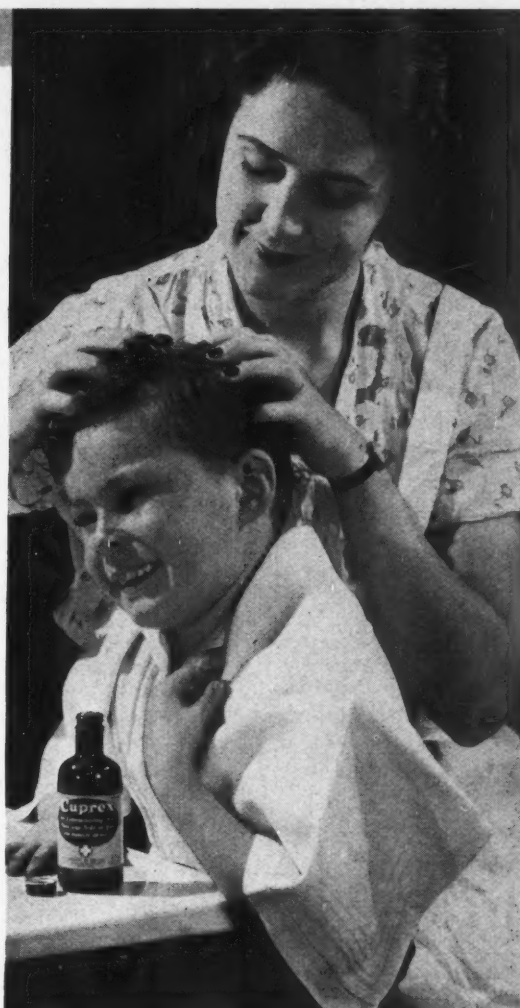
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M H-3

Tests for Quality Linen

HOWARD A. MUNSON

THE purchase of hospital linens is a problem that calls for a great amount of time and energy and wisdom. It also constitutes one of the largest and oft-recurring expenditures in the modern hospital. If it is to be done intelligently and profitably many factors must be considered.

One may buy linens of many grades and within a wide range of prices and one of the biggest problems is to know at which price the bargain lies. The fact that a particular sheet has a low initial price is not assurance of long-run economy. Cheap linens, which fall below standard quality, may cause actual loss to the hospital.

But the purchase of linens is something more than a consideration of the price of different items. It must include the careful judging of many characteristics, some of which are tensile strength, appearance, softness, whiteness, retention of whiteness after repeated launderings, and shrinkage. In searching out these qualities the buyer may find it necessary to use several tests which will include:

1. Careful examination.
2. Thread count.
3. Tensile breaking strength.
4. Laundry process.
5. Actual wearing tests on the hospital's beds.

Since bed linens, especially sheets, are perhaps the biggest item on our linen budget, and since the characteristics, testing and examination of sheets are similar to all other linens, let us confine our discussion to this.

We have given "careful examination" as one of the tests in considering the quality. It may sound strange when we state a seemingly contradictory fact, that while the careful visual examination is impor-

How hospitals can save thousands of dollars annually by exercising care in buying and using linens is told by the purchasing agent of New England Sanitarium and Hospital, who tests linens before they are bought

tant and necessary, nevertheless this examination of a new sheet may be of little value in determining the real quality. Let us take an actual example to prove this statement. A salesman brought to our hospital a sheet and quoted a remarkably low price. It was supposed to have a thread count of 68 by 72, or 140 threads to the square inch. To all outward appearances it had good body, was fairly soft, had a fine finish and seemed to be a good buy. The salesman was told that it was our policy not to buy a sheet without a series of tests that required thirty days to perform.

We purchased a sample sheet, noted its appearance, then put it through the laundry for two washings. The following examination was all we needed to show us that this sheet was expensive no matter what the price! It was made from short-fibered and poor quality cotton. It was badly woven. Before washing it was so full of starch or sizing that an accurate judgment of its quality was impossible. After washing all these imperfections were visible. Thus we can see that unless this visual examination is carried on in conjunction with certain other tests it is not of much value.

This practice of "backfilling" new goods with a starch composition may cover up a multitude of defects. While it is true that this practice is not as prevalent as it once was, yet it is a wise buyer who washes his sheets before he makes his final de-

cision about buying. This sizing gives one the impression of a fine finish and good weight. And it may cover weaving imperfections such as knots, broken threads or slips. By washing the sheet several times we find the true finish and the loosely twisted threads, knots and short ends are plainly visible.

Here we should add that all new linens should be washed before they are sterilized because they contain oils that are damaging to the fabric when heated to high temperatures. In lieu of washing the fabric one may rub it vigorously between the hands to remove the sizing so he can get a better view of the actual surface.

As a second test we will consider "thread count." This must be considered in conjunction with many other factors. One would suppose that a sheet with a thread count of 72 by 72 (that is the number of threads running in each direction, warp and woof, to the square inch) would be a stronger sheet than one having a thread count of 68 by 72. But it isn't the thread count per square inch as much as it is the grade of cotton that makes up those threads that accounts for strength. A sheet may have a thread count of 80 by 80 and yet if these threads are light weight and of poor quality cotton they will not wear as long as a sheet of good quality cotton and a 68 by 72 thread count.

With a glass the buyer can count the threads, but it is difficult to tell anything about the length of the

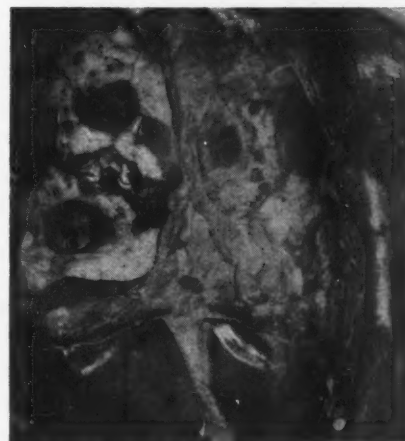
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cotton staple. The raw cotton is twisted to form threads and the strength of these threads depends upon the length and strength of the individual fibers composing it. If high grade cotton of long staple is used and if these lengths are tightly spun together and the weaving and bleaching process is done properly, then the sheet will be first quality. But if the cotton fibers are short and they are loosely twisted and woven, then it stands to reason that there will be innumerable loose fiber ends throughout the sheet. These loose ends cannot resist laundering nor withstand wear. After a few washings such a sheet becomes sleazy and rough looking. And a fraction of an inch longer staple makes a tremendous difference in a piece of cotton goods.

It will help the buyer in his thread count test if he considers sheets by weight. One can figure the square feet in a sheet and divide by the actual weight and thus get a fair idea of the size of the threads and the thread count.

Tests for Tensile Strength

In our search for the actual quality of the sheet the third test mentioned was "tensile breaking strength." This can best be done in a scientific testing laboratory in which expensive equipment is used, the temperature and humidity of the air are checked and great care is taken that all conditions are uniform. Yet I believe that the purchasing department of the average hospital can make certain tests that, while not as accurate and complete as the laboratory tests, nevertheless will give a fair idea of the quality of the item and the amount of wear to be expected.

For several years we have used a linen and paper tester that gives the combined breaking strength of the warp and weft and, we believe, gives a good estimate of the strength of the fabric. We combine this tensile breaking strength with a laundry test in this way: We take the breaking strength of the sheet when new. Next it is put through the regular laundry process. Then it is tested again and laundered. We do this for a full month. By this we can see the strength and appearance of the sheet when new and compare it with

strength and appearance after one month's testing.

One of the things this testing has shown is that the breaking strength of a sheet is not uniform throughout—it may register very high in one point and also have a decidedly weak spot. We believe that a sheet is as strong as its weakest spot and we make particular note of this lowest breaking point.

Results of Washings

Another thing this testing shows is that the breaking strength of a new sheet will not be as high as it will be after a few washings. This is made clear when we realize that the new sheet is more loosely woven. After a few washings the threads shrink and draw together and it takes more pressure to break them. After a month of testing we check the weight, appearance and whiteness with the same qualities when it was new, and we have a good estimate of how the sheet will perform in actual use.

Testing towels seems to be difficult and not very satisfactory. There are so many types and so many weaves that no two seem to be alike. It has been our experience that it is hard to get anything to outwear a good strongly woven all-cotton huck towel. Recently we tested one of these towels along with another loosely woven, thick, absorbent cotton towel. Because of its bulk one might expect the heavy towel to give the longer wear. But it averaged about 50 per cent, in all tests, below its thinner and more closely woven brother. The only advantage in the thick towel was in absorbency.

In the turkish or terry cloth towels the two main types are the heavy ribbed and the plain weave. The strength and durability of these towels depend upon:

1. The strength of the individual threads.
2. The number of threads to the inch in the ground warp.
3. The type of weave used in its construction.

We have found that a towel that is constructed of two-ply ground warp yarns with an equal number of ground yarns and pile yarns and with a single-ply filler yarn will be heavy and strong and give long

wear; the numerous two-ply ground warp yarns give it added weight and strength. In towels, as in the buying of all linens, the weight per dozen gives a good idea of what the towel will do in actual wear. Often a cheap, light-weight turkish towel can be taken between thumb and fingers and the warp and filler threads parted for a full inch. These towels weigh about 4 pounds to the dozen in the 19 by 38-inch size.

We feel that our testing instrument has taken much of the guess-work out of buying linens and that it has paid for itself many times over. In several instances it has kept us from buying inferior merchandise that would be costly at any price.

Linens "Take a Beating"

The fourth test mentioned was "laundry process" and we have touched upon that in connection with the testing work. The laundry is likely to be a place in which our expensive linens take a terrible punishment. Too strong soaps, too much bleach, partly worn-out machinery, rough mangle work and many other factors cause linens to age prematurely. Many times the nature of a stain makes it necessary to use harsh cleaning agents. One check on what the laundry is doing to your linens is to see whether or not the laundry mark soon washes out. If it does it is certain that the fabric is being weakened.

Our final test was the "actual wearing test" on the hospital beds. In this test a marking machine is a necessity. Every piece of linen should have the date marked upon it when it is put into service. Then when an item receives its first mending the date is checked; likewise when it is too far gone to be of more service.

It seems to me that by exercising care in buying and care in using our linens, we could annually save many thousands of dollars for the hospitals of this country. In order to do this every buyer must combine these tests of visual examination, weight per dozen, thread count and tensile breaking strength, with the notations on the effect of the laundry process and actual wearing tests. Then he will have a good check on whether or not his institution is getting full value on its linen purchases.

43 Leading Plants and Institutions say It's a Fact!



POWER $\frac{1}{2}$ cent **COST**
per kilowatt
hour

...and this includes ALL costs

This is the astonishingly low average power cost found from 43 comprehensive surveys in leading plants and institutions, covering 29 different industries and involving 19 different kinds of auxiliary equipment such as: compressors, blowers, fans, stokers, pumps, generators, etc. Their plant engineers supplied all the necessary data. They checked the results.

This average cost of only $\frac{1}{2}$ cent per kilowatt hour is indeed news—many are $\frac{1}{4}$ and $\frac{1}{3}$ cent—and the unit delivering it is the Troy-Engberg Steam Engine! Given comparable conditions, it will deliver low-cost by-product power in any plant using steam for processing or heating. In the 24 cases where other power costs were available, the average investment was \$1100; annual saving \$1600; annual return on investment 114%; reduction in power cost 71%.

Why not find out just what the Troy-Engberg Steam Engine is capable of doing in your plant? Send for the details of these surveys. Write for Survey Bulletin 101 or return the coupon below.

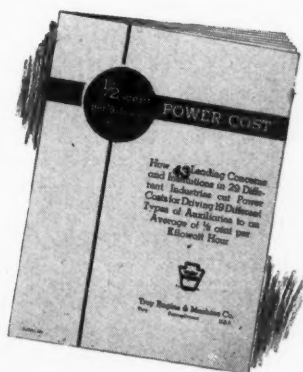
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for protecting hospitals
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Gentlemen:

Please send us a copy of Bulletin 101 which describes in detail the results of the surveys referred to above.

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We Treat the Floors

MILDRED G. PAGE

METHODS of cleaning hospital floors have advanced a long way since the time when floor maids spent the day on their knees applying a well-soaped scrubbing brush and elbow grease to hardwood and tile. Today methods of cleaning and materials to clean with are as numerous as the types of floors on which they are to be used.

In a small hospital, such as Henrotin in Chicago, we have two main types of floors, each requiring different methods of cleaning but somewhat the same daily maintenance.

Twenty per cent of our floor space is high grade rubber tile; this requires skillful care and special materials if its life is to be prolonged and its beauty preserved. In the beginning we experimented with many products that did not meet our requirements. Some waxes we found too thin, others too slippery. When cleaners were used, some removed too much of the base wax. Gradually, however, by the process of elimination we arrived at satisfactory materials for cleaning and polishing and developed a routine for the work.

Our present procedure for waxing floors is to scrub the surface with a commercial cleaner that serves as an emulsifying agent and does not remove the foundation wax. By foundation we mean that wax which has already filled the pores of the rubber tile and is used as a base for succeeding coats of wax.

The cleaning solution is applied with a fine spray and allowed to stand a few minutes to dissolve the dirt. Scrubbing with a floor machine follows. Next the floor is rinsed thoroughly with clear water and allowed to dry, after which the first thin coat of wax is applied. We use a lamb's wool brush for applying the wax. It is allowed to dry for twenty minutes, the houseman meanwhile working on another corridor.

The next step is buffing, followed by another thin coat of the wax. The same procedure is followed until the



Corridor at Henrotin Hospital, showing the fine gloss given to the rubber tile.

desired protective covering is built up. The final luster is given by a lamb's wool polisher.

Floor maintenance was quite expensive during the first year of the building up process because the rubber tile absorbed so much wax. Then eight coats of wax often were required; now that the saturation point has been reached the same result is obtained with three.

Treated in this manner our rubber tile floors remain in good condition for a month or longer with routine buffing, except for occasional spot-tinting due to accidents. Floors are dusted several times a day with a dry mop.

In comparison with our rubber tile our terrazzo floors are inexpensive to maintain, since they do not require waxing and only little scrubbing. We maintain four times the amount of terrazzo floor space at the same daily cost for supplies as our rubber tile.

In cleaning terrazzo our problem always has been to keep the surface free from soap film. Experience has shown us that proper rinsing is 75 per cent of the cleaning process with terrazzo. For our purposes we have found an emulsifying type of cleaner

the most satisfactory. Using this method one man can cover three times as much area as by the scrub method. The cleaner we use is sprayed on the floor, allowed to dissolve the dirt for about five minutes and rinsed off, leaving no streaks and giving the floor a nice luster. Baseboards are done in the same manner. For the daily routine cleaning of terrazzo we use a small amount of vegetable oil base soap and rinse with clear water.

HOUSEKEEPER'S CORNER

- New uses for the small spray gun that is provided with bottles of commercial window cleaners are suggested by the Engineering Extension Service of Iowa State College. This spray gun has been used for spraying oil on mops; it can be used equally well for applying a light oil to electric motors, pencil sharpeners and door hinges, and it can be carried conveniently in the pocket of the hospital worker.

- With light colored leathers being used more extensively for upholstering hospital furniture, the housekeeper's particular concern is for methods of cleaning that will keep the leather clean and soft. In a Midwestern hospital a cleaning method using saddle soap has been worked out. The lather is applied with a brush, using a circular motion, and the leather is rinsed carefully. As a finish, clean saddle soap is massaged into the leather. About twice a year neatsfoot oil is rubbed into the leather after the regular process.

- "We housekeepers are trying to broaden our knowledge of the work of housekeepers and therefore we must familiarize ourselves with every phase of the work as far as it is possible," says Gladys Hancock, director of housekeeping at New Britain General Hospital, New Britain, Conn.

- "We must know our work from a social, scientific and practical point of view. The housekeeping department is closely interlocked with every department in the institution, and, consequently, we must familiarize ourselves with every phase of hospital work."

- Enthusiastic over "big" little savings is Mrs. Virginia Hein, housekeeper at the Floridan Hotel, Tallahassee, Fla. Left-over soap is dried, ground to a powder, mixed with a little water, melted, brought to a boil and poured into pans. When cool it is cut into bars and used for cleaning.

Introducing . . . not just a combination

HOT WATER BOTTLE and ICE PACK



but the latest DAVOL development for the sick room

No. 100 Duplex—a combination hot water bottle and ice-pack—is being introduced generally as a new super-convenience around home and hospital. Quite as important, it represents the latest evidence of Davol's close cooperation with the medical profession . . . in the constant search for more efficient aids to practical therapy.

Specifications are as follows:

Smooth surface, molded, 2 qt. capacity. Quick filling. Guaranteed for three years. Roughened interior surface prevents sides from sticking together (an exclusive feature on all Davol flatgoods!). Patented, non-losable screw stopper; pneumatic washer and tabs for attaching. \$12.00 a doz.

DAVOL



DAVOL RUBBER COMPANY, PROVIDENCE, RHODE ISLAND

How Many Dietitians?

WHAT do four dietitians find to keep themselves busy feeding practically the same number of patients formerly fed by two dietitians? Up to the summer of 1936, Temple University Hospital, Philadelphia, employed two dietitians; since the summer of 1937, there have been four. There is an increase in the number of private patients and staff members to be fed, but not a large one.

Obviously the foremost function of the dietary department is to feed patients to their satisfaction and according to the diets prescribed by the physicians, but the dietitian also has a responsibility as a teacher and an administrator. She must teach employees good working habits; student nurses, cooking, normal nutrition and dietotherapy; patients, special diets for home use. She must also conduct a well-rounded course for student dietitians and keep up to date in her field. She must plan menus, order food supplies, organize employees' schedules and supervise all phases of food preparation and service.

An Impossible Task

With only two dietitians in a 450-bed hospital any supervision other than that relating directly to food service was impossible. Employees were left to establish their own schedules, and they were seldom inspired, to do thorough cleaning. Left-overs were thrown out or used up at the discretion of the chef, and the menus showed a monotonous repetition as no one had time to hunt up or try out new dishes.

Now a dietitian supervises the work of the forty-two employees, outlines their schedules, arranges their relief and inspects their daily cleaning. Left-over foods, particularly butter and eggs, formerly thrown away, are saved and used in cooking. The size of serving por-

tions has been better standardized to decrease waste. The cost of between-meal nourishments from our central liquid kitchen per patient per day has decreased in the last four months from \$.076 to \$.045, a decrease not altogether the result of the lower cost of oranges. New recipes are welcome, and if proved satisfactory by trial, find a place in our fast-growing file, where they will soon be priced as to cost per serving.

Course Is Better Organized

What has happened to the courses for student nurses? It takes a great deal of time, both in and out of the classroom, to give a good course in any subject. With an augmented staff the formal lectures in nutrition and dietotherapy are better organized, and sufficient laboratory sections are formed to allow each student adequate space and equipment. Formerly sixteen or seventeen girls were crowded into one laboratory section, so that they literally had to take turns cooking.

The nurses in the diet kitchen had neither time nor opportunity to know the patients for whom they were preparing trays. Those on diabetic service calculated, weighed and served diabetic diets with little supervision so that mistakes were frequent. The nurses now have a daily conference with the dietitian to review their dietotherapy and to apply it to the special diets they are preparing. All diabetic calculations are checked and the trays inspected before the patients are served. Upon discharge, the patient who was formerly taught by a nurse, receives instruction from a dietitian, the same one who has also taken over the teaching of diets to out-patients.

The special diets in use in the hospital at the present time are in

that state, only too common, of being a collection of sheets of paper from no one knows where, some up to date and some so old that their antiquity is amusing. The dietary department is going over each diet thoroughly, weeding out the incongruities, arranging each in a common form and discarding those in disuse. Before adoption of any changes they will be sent to the chiefs of the various services for correction or approval.

Have the student dietitians benefited by the change? I believe so. With only two dietitians, the student necessarily acted as an unpaid assistant, helping when and where she was needed. A course of study, as such, existed only in theory. She did not spend a given length of time in the main kitchen, then in the diet kitchen, on private tray service or on special diets. She did not have an opportunity to participate in every activity of the dietary department and those activities were themselves of limited scope. She had no regular class work, no observation period in clinics or laboratories, no affiliations to broaden her experience.

Aim for Approved List

The student course in the last eight months has made many strides forward. We have applied for approval of the American Dietetic Association and with our increasing ability to follow whatever suggestions it may make for the betterment of the course, we should eventually find a place on the approved list.

The dietary department is responsible for approximately one-third of the total running expenses of the hospital. It must see that the institution receives full value for this money. There are various ways to

ALICE M. KARSLAKE

Why RY-KRISP is a natural corrective for *Common Constipation*

The two test tubes show how Ry-Krisp plus the liquid ordinarily consumed at a meal produces bulk. At left is the amount of moisture in a dry Ry-Krisp wafer, 6.8% by weight. At right the amount of water one Ry-Krisp wafer will absorb, 5 times its own weight.

Doctors are finding Ry-Krisp Whole Rye Wafers a natural aid for correcting common constipation due to insufficient bulk for reasons which are obvious when you consider that...

RY-KRISP is simply whole rye, salt and water—*double baked* for brittle crispness. As such a food it has a high percentage of bran, high pentosan and crude fibre content to encourage normal bowel action. Moreover, each wafer absorbs five times its own weight in water, thus producing need-

ed bulk to stimulate natural peristaltic action.

RY-KRISP involves no unpleasant dosage to be avoided or postponed. Instead it offers the tempting, crunchy goodness of a *natural*, delicious food—so good with any meal that patients gladly eat it regularly. Results are dependable, predictable, natural. For that reason alone it is immeasurably valuable to school children, to busy men and women tied down with daily routine.

For free samples and the Research Laboratory Report on Ry-Krisp use the coupon below.

RY-KRISP *Whole Rye Wafers*

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Without obligation, please send me samples of Ry-Krisp and copies of the Research Laboratory Report.

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(This offer limited to residents of the United States and Canada)



effect this. I have mentioned the decrease in food waste; there is also the decrease in food cost. To maintain the same high quality of product requires eternal vigilance, *i.e.* the scanning of the daily market report in order to use those foods on the menu which are at the height of the season; the knowledge of specifications, to inform the prospective bidder as to size and standards of product required, and the inspection of goods at the time of delivery to check on the quality received. Formerly, the dietitian purchased all fruits and vegetables from one concern; now she receives bids from three companies and places her order, other things being equal, with the lowest bidder.

A similar situation exists in regard to equipment. Standard numbers of dishes, silver and glasses did not exist. When there was an insufficient number to serve meals, more were ordered. Now the inventory is taken monthly, and all stock is brought up to a standard number. A lively campaign is being conducted to combat that perennial problem, breakage. The price of each dish has been posted in a conspicuous place near the dishwashing machine. Charts of monthly expenditure for replacements are kept in a similar place and the number of dollars per employee wasted in this manner is emphasized in order to impress upon him how much it would mean on or off a pay check. The other kitchen equipment is handled in a similar manner. It is inventoried twice yearly and brought up to a standard.

Floor plans for improved layouts of both main kitchen and diet kitchen have been worked out with possible variations so that any large pieces of new equipment may be purchased and placed with a long term plan in mind.

The step that has involved the most work, and to me is the most important one taken in the last eight months, has been the recording and computing of the per capita food cost. Of what use is an accurate per capita? It is the only true basis for comparing your food service with that of other institutions. It is the only accurate method of determining whether the trend of your own food costs is up or down.

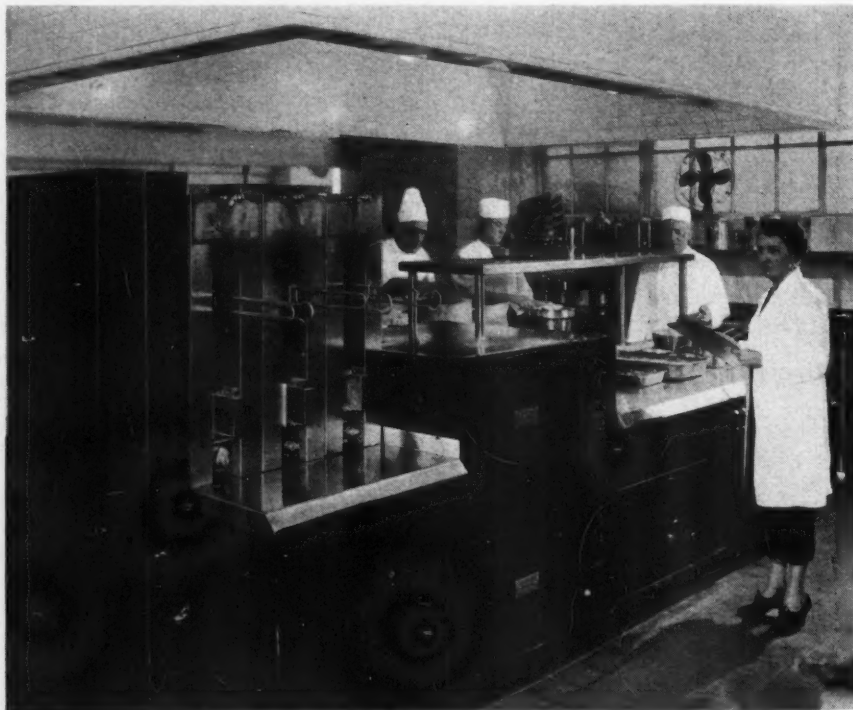
In order to compute the per capita cost, we had to establish means for recording the following information—the number of meals actually served each day to doctors, nurses, night nurses, medical students, employees, ward patients, private patients and those on special diets, and the amount and cost of foods used by the dietary department. Fortunately the inventory of food on hand at the beginning and end of the month, aside from groceries in the storeroom, could be ignored. All meats, fresh and frozen fruits and vegetables, bread and dairy products are purchased daily, so that the bills on those items give us the cost of the amount used.

Canned goods and other staples are ordered into the kitchen daily and all those left over are returned to the storeroom with a credit slip, so that the amount used shows on our daily storeroom orders. Owing to the number of items, these total 300 or 400 requisitions per month to be scanned in order to copy the staples

on to a summary sheet, to add the total number of packages, pounds or cans of each item used, to multiply by the current price, and to add together to compute their total cost. This figure plus our monthly bills for fresh supplies, minus credits resulting from food purchased by other departments, divided by the number of meals served during the month equals the per capita cost. Quite a bit of bookkeeping for a mere dietitian! But here at least we have some evidence that the time spent on better administration of the department has been of some value. The cost for food decreased from \$.182 per meal in August to \$.161 in November. Since we serve 60,000 meals, this means a reduction of \$1,200 a month.

This résumé of the functions of the present dietary department is far from self-congratulatory. As has been indicated, there are many problems still occupying our time and attention, and there remain many others on schedule for us to turn to at the earliest available moment.

An All-Electric Kitchen



This all-electric kitchen serves 1500 meals a day to patients in the California Hospital and the California Babies Hospital, Los Angeles. Reeva Hinyan, head dietitian, finds that the new equipment has helped to improve cooking, has made foods more appetizing and thus helped to stimulate the appetites of patients.

BASIC OPERATIONS IN COMMERCIAL CANNING PROCEDURES

I. CLEANSING OPERATIONS

● As reference to a recent text on canning will disclose (1) the details of commercial canning procedures will vary from product to product. There are, however, certain basic operations which are included in practically all canning procedures. In the belief that they may prove of interest, it is our intention to describe in broad detail the nature and purposes of these essential operations.

One of the first and most important steps in commercial canning is the thorough cleansing of the raw food material received at the cannery. The purpose of such an operation is, of course, immediately evident, namely, to remove soil, dirt or other inedible substances which may be present. However, cleaning also serves to reduce substantially the load of spoilage bacteria with which Nature usually endows raw foods.

Commercially, cleansing is effected in a variety of ways. In general, however, water washers specifically designed for the various types of products are used. In these machines, the raw food material is subjected to high-pressure sprays or strong flowing streams of potable water while passing along a moving belt or while being tumbled by agitating or revolving screens. Sometimes a "flotation" type of washer is also used to remove chaff or similar material. With cer-

tain products, water washing is preceded by a "dry" cleaning treatment in which adhering soil and dirt is mechanically removed from the food by revolving or agitating screens, or by strong air-blasts.

Also, in certain canning procedures, operations whose basic functions are not primarily to clean the raw material may also exert a cleansing effect. Thus, the "blanch" or scalding treatment accorded many products serves to clean the food, as does the water spray sometimes applied to foods after the blanch.

Modern canners know the necessity of thorough cleansing of the raw materials they use. They appreciate that thorough cleaning and removal of extraneous material decreases the load of spoilage organisms which must be destroyed by the heat processes to which all canned foods are subjected. They also appreciate the necessity of maintaining strict plant and equipment sanitation to destroy spoilage bacteria which may be carried in by raw foods.

Because of the efficient cleansing of raw materials and close attention to the other important operations in the commercial canning procedures, modern canned foods must be ranked among the most wholesome foods coming to the American table. (2)

AMERICAN CAN COMPANY

230 Park Avenue, New York, N. Y.

(1) 1937 Appertizing or The Art of Canning, A. W. Bitting, The Trade Pressroom, San Francisco. (2) Preventive Medicine and Hygiene, M. J. Rosenau, Appleton-Century Co., New York.

This is the thirty-third in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

A Few Don'ts for Dietitians

WALTER C. ALVAREZ, M.D.

IT IS a wise man who learns by his own mistakes and it is a wiser one who learns by the mistakes of others. During the last few years I have been impressed by certain tendencies in American dietetics which, if not stopped, will cause some patients serious inconvenience. Ever so often I see persons whose nutrition has suffered badly because they were left for a long time on a diet not sufficient for the maintenance of nutrition. This would have been bad enough if the overly narrow diet had brought the patient relief from his symptoms but usually it has not done this.

I believe every physician, when he prescribes a diet, should say to the patient, "Here, if this diet does not give you relief within a few days, quit it and either come back for more suggestions or else go back to your regular dietetic habits." Almost every week I see patients who have remained faithfully on a narrow ulcer diet for months, in spite of the fact that it never made them feel any better. Obviously this is wrong.

Years ago I learned that if I put a patient on an ulcer diet with food every two hours and he didn't lose his pain within two or three days, I should begin to suspect strongly that my diagnosis of ulcer was wrong. I am not referring now to those cases in which the ulcer is old and intractable. If the patient when put on a Sippy regimen does not show signs of relief within a week or two, he is probably not going to do so later. Hence, the sooner he is turned over to the surgeon the better.

Patients Left Starving

Similarly, if I put a patient on an elimination diet and he is not relieved of his gas or indigestion or pain the next day, I fear that either his troubles are not related to the nature of his food or else that some one of the four or five foods I prescribed is harmful to him. Immediately, then, I go about finding out.

Every month I see patients who have been skin tested and then left

almost starving on a diet that consists of those few foods to which an overly sensitive skin did not react. Rarely does it appear that the physician who made the skin tests and prescribed the diet bothered to see whether or not the digestive tract responded with distress to the foods to which the skin responded with a wheal.

Every allergist of any experience must know that skin tests for food sensitiveness are deceptive and usually of little value. Yet physicians all over this country today appear to be depending on them entirely for their dietary prescriptions in cases of allergy. As a result, in one month recently I saw three patients who had been reduced to skin and bones. One, who had lost 60 pounds, was so weak she had to be brought to the clinic on a stretcher. I promptly put her back on three square meals a day and found that this did not cause her old symptoms to return. They had been due to the strain of nursing a dying husband, apparently.

Clinician Before Allergist

Today what is needed is a middle-of-the-road attitude toward food sensitiveness. On the one hand one finds physicians and dietitians who have no patience with the man or woman who claims to be unable to eat one or more foods; they think persons who believe in that sort of thing are faddists. On the other hand one finds an ever-expanding group of young enthusiasts who seem to believe that every disease is due to "food allergy," as they call it. Some are so busy skin testing and leukocyte counting and taking food away from their patients that they haven't had time either to observe the results obtained or to make any attempts at finding new foods to replace those taken away. What is needed is more thought and the exercise of more clinical sense.

But all this does not excuse in the slightest the dietitian who insists

Need for dietitians to take a middle course in treating food sensitiveness is observed by the Mayo Clinic authority on diet

that the helpless patient in a hospital eat eggs and drink milk when he says that since infancy these foods have always poisoned him. I am just mean enough to hope that such a dietitian will some day find herself so sensitized that she will be compelled for a while to live on a dozen foods only. That would teach her sympathy for these sufferers.

Another type of patient whom I see nowadays, half-starved, anemic and perhaps bleeding from the digestive tract, is the one who has been forgotten and left on an ulcer diet so strict that there is in it no meat or other substance from which he can get needed iron and no fresh food from which to get vitamin C. I can see no valid reason why a patient with ulcer should not be given meat and fruit juices. Actually, my ambulant patients seem to get along on a generous diet as well as do others on narrow diets.

Another objection that I have to American dietetics is the habit of stuffing every child, including the little girl of overly big parents, with the vitamins that promote growth. I believe in giving every child enough of these substances but I believe that some thought must soon be given to the fact that many girls today are so tall that it is hard for them to find a husband.

Yet another objection I have to modern practice is the tendency to insist that constipation be treated only with a rough diet and some of the many bulk-producing substances that are now so popular. Today the very suggestion from a

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with the "Viande,"* Long Handle, Short French Shape Stainless Steel Blade. Your guests will enjoy Chicken, Chops and Steaks with greater comfort and pleasure. One of the most practical improvements of the modern age.

Or, if you prefer the regular knife with the long blade, it can also be secured, as illustrated. Either style is nicely proportioned, neatly balanced and smartly designed.

Samples, prices and complete information regarding these new knives can be furnished by your local Hotel Supply Jobber, or write to

INTERNATIONAL SILVER COMPANY

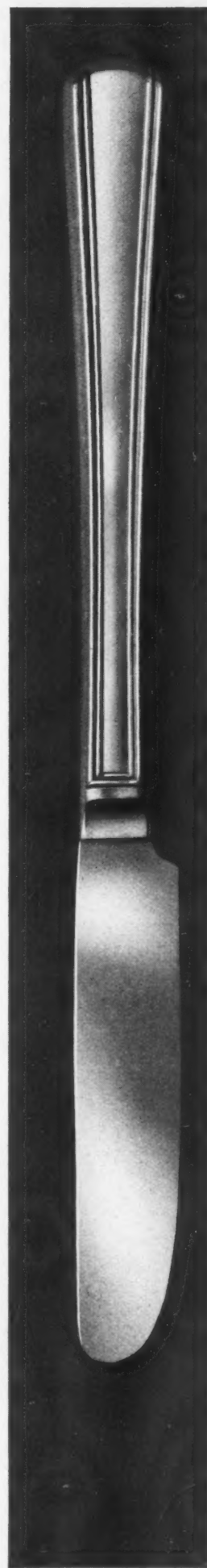
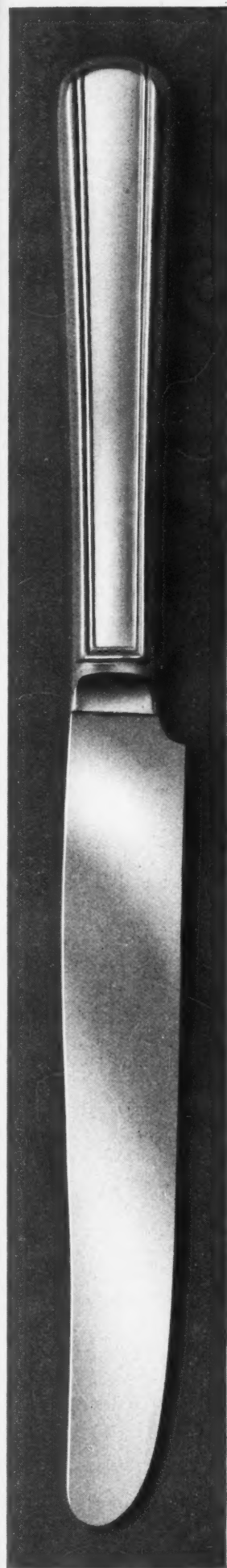
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patient that he uses a laxative or an enema is likely to bring on a tirade from the physician. Why this should be, except that it is the present-day custom, is not clear to me.

What bothers me also is the fact that many physicians look upon the patient as cured as soon as he begins to get daily bowel movements with the help of liquid vaseline or some granulated form of gum or seaweed or cellulose or bran. A few follow-up studies would show these physicians that most of the patients are helped for a time; then the colon adjusts itself to the extra bulk of fecal material and the old constipation is back again as troublesome as before.

One of the most useful tricks I have found is to get constipated patients to shift every few days or weeks from one type of bulk-producer to another. I ask them to

change as soon as signs appear that the bowel is becoming adjusted to the substance then being added to the diet. Some persons have to change every week or ten days, while others can get good results with one substance for months.

When a bulk-producer does not work well, I can't see why a mild laxative or an enema should not be used. For twenty years I have been looking for someone who has been definitely harmed by the use of mild laxatives or the taking of enemas and as yet I haven't found one.

Let us then individualize our treatment more than we have in the past and when a patient comes asking for a diet, let us not just hand him out one designed primarily for maintaining good growth in a young rat; let us spend a few days or weeks fitting one to his special needs and idiosyncrasies.

but also the texture, because the process is slow, taking hours and even days to freeze. With slow freezing, the ice crystals formed were large and they pierced the cell walls, causing a loss of juices and a tendency for the product to go to pieces.

Quick freezing requires only a few minutes. It is done so rapidly that the ice crystals are very small, causing no damage to the cell walls, while the flavor and texture remain unchanged.

One of the advantages of using frozen foods, from the hospital standpoint, is that of appetite appeal. Fruits and vegetables retain the natural color they had when packed. It is not necessary to add soda or other color-fixing agent when these foods are cooked. During the winter months when fresh fruits and vegetables are expensive and difficult to obtain, this color is of great value.

No wonder that frozen foods have this firm, fresh appearance, for they are harvested and packed at the time of their peak in quality and quick frozen within the space of a few hours, we are told. The average "fresh" fruit or vegetable obtainable on the market is anywhere from twelve hours to three weeks old.

Another advantage immediately apparent to the person in charge of the institutional kitchen is the labor-saving feature—no paring, shelling or cutting up is necessary. These foods are ready to use at an instant's notice and there is no cleaning up or extra dishwashing in connection with their preparation for cooking.

Many institutions have found that the cost of frozen foods averaged less than the cost of fresh foods from the market for the greater part of the year. This takes into consideration the saving of labor and water and the shorter cooking time, which effected a considerable saving of fuel. An additional advantage from the cost standpoint is that with containers of uniform weight and the assurance of a standardized price per carton, the cost per serving can be easily figured.

The following table shows some of the advantages of frozen foods over fresh foods, from the standpoint of time-saving and loss of weight in cooking.

Convenience and cost are important factors in considering food prod-

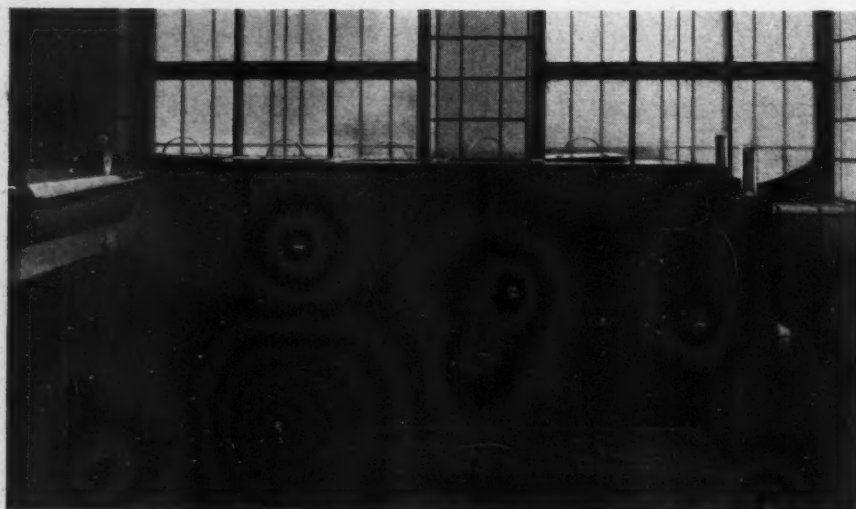
Equal to Fresh Foods

ANNA E. BOLLER

FROZEN foods have become important in present day menu planning. With ever-increasing production making frozen foods available at lower costs and with better facilities for storage, these products

will lend greater variety to diets.

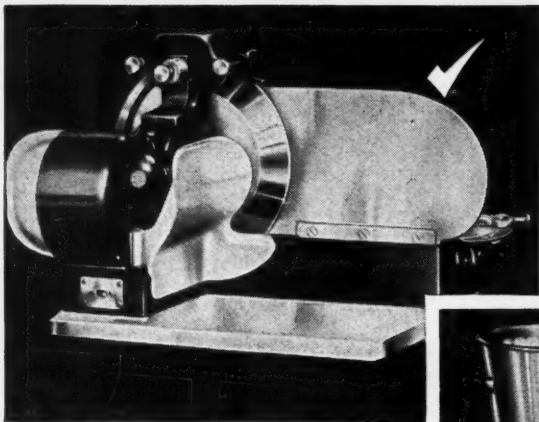
Until the new quick freezing process was developed a few years ago it was generally believed that a food was spoiled when frozen. Ordinary freezing destroys not only the flavor



Brine box made at the Indiana University Medical Center for the storage of frozen foods has proved satisfactory. Sides and top of the box are covered with monel metal and the whole is well insulated. Brine temperature is maintained at 2° to 8° above zero. Five containers were built into the box in direct proportion to what they were to contain, and adequate air circulation is provided.

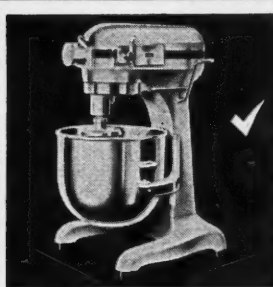
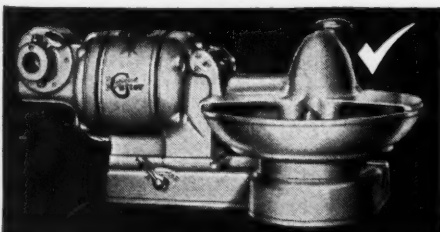
RAISE KITCHEN STANDARDS

As You **REDUCE COSTS** with **NEW HOBART Machines**



SLICERS regulate and insure *uniform*, attractive servings of all sliced foods at definitely *known costs*, with savings in time and labor.

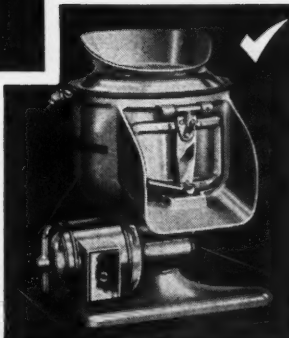
AIR WHIPS (right) increase yield, make finer quality of whipped cream.



MIXERS in complete range of sizes from 10-qt. to 80-qt. -110-qt. capacities to fit the needs of any size kitchen!

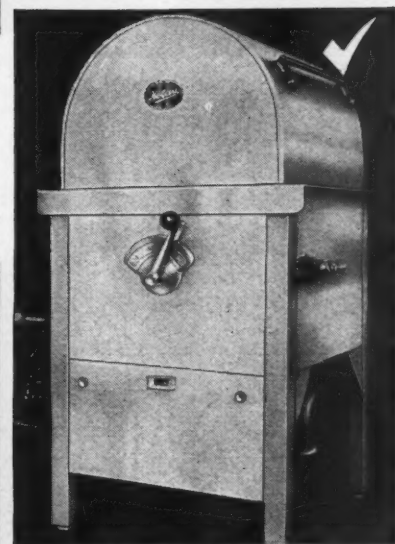


DISHWASHERS and Glasswashers maintain high degree of cleanliness; eliminate chipping, marking; reduce all dishwashing expenses. New Model "LM" features large capacity in small space.

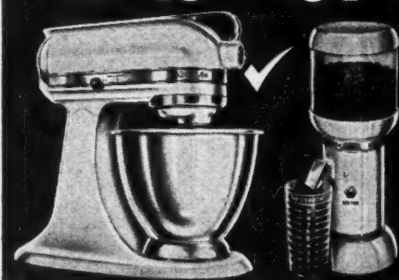


POTATO PEELERS quickly pay for themselves in saving of "peel-loss" alone.

FOOD CUTTERS (left) work with lightning speed; contribute savings in the use of left-overs.



TWO KitchenAid PRODUCTS



FOR YOUR HOME, new Model "K" complete Food Preparer at half the price of famous Model "G". New Household Coffee Mill: freshly-ground coffee in correct grind for any method of making, at snap of the switch.



Check ✓ the coupon now for complete facts on **EXCLUSIVE ADVANTAGES** of latest Hobart Models.

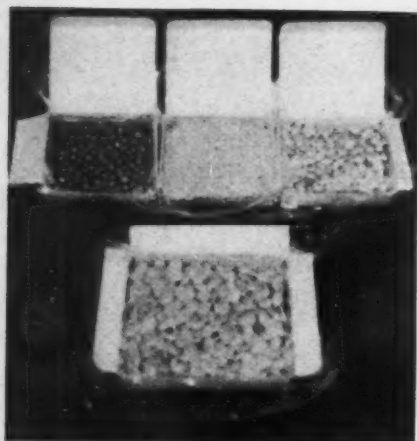
THE HOBART MFG. CO., 903 Penn Ave., TROY, O.

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| <input type="checkbox"/> Mixers | <input type="checkbox"/> Dishwashers | <input type="checkbox"/> Potato Peelers |
| <input type="checkbox"/> Slicers | <input type="checkbox"/> Food Cutters | <input type="checkbox"/> Air Whips |
| <input type="checkbox"/> KitchenAid Food Preparer | <input type="checkbox"/> KitchenAid Coffee Mill | |

Name _____
Address _____
City _____

ucts of any type but if the food value of such products is not up to par, all other advantages are worthless. For many years scientists have been conducting experiments to determine the effects of quick-freezing on the vitamin content of foods.

Although such research work is not yet complete, it has been proved that quick-freezing of peas, imme-



Boxes of frozen foods as they appear when taken from the refrigerator.

diately upon harvest, for example, preserves the vitamin C content so that considerably more of this important vitamin is found in the frozen peas than in fresh peas purchased on the market. Moreover, the frozen peas retain a greater quantity of vitamin C than do peas preserved by other processes.

Completed research on frozen spinach and kernel cut corn shows that there is no loss in the vitamin A content of these foods. In asparagus and strawberries prepared by the quick

frozen method, vitamin C was present in large quantities. Eminent scientists have, therefore, stated that they have found frozen foods to be equal in food value, including all the vitamins, to the freshest foods obtainable.

Frozen foods should be kept under refrigeration at all times until they are used, the temperature not exceeding a maximum of 10° F. Lower temperatures are advisable, particularly when the foods are to be held over long periods of time. Adequate circulation of air is also necessary and cases stacked on top of one another should have wooden slats placed between them. Space should also be left between rows, to permit free circulation of air on all sides.

A low temperature storage cabinet, in which temperatures from 0 to 10° F. may be maintained, is the ideal method of keeping frozen foods. Foods purchased for immediate use may be kept under automatic refrigeration from twelve hours to three days, according to the type of food.

The ice cream cabinet makes an excellent storage box, if extra holes are available. Frozen foods may be kept there indefinitely, as temperatures are very low. Dry ice is a satisfactory method of keeping frozen food products, although this method is slightly more expensive.

The following table gives the length of time that frozen foods may be kept at various temperatures:

12 hours maximum
Average room temperature
72 hours maximum 35° to 40° F.

Comparison of Frozen and Fresh Foods in Relation to Weight Loss and Time Consumption

Product		Weight (Oz.)	Pre- pared Weight (Oz.)	Cooked Weight (Oz.)	Total Weight Loss (Oz.)	Per Cent of Weight Loss	Prep. Time (Min.)	Cook- ing Time (Min.)	No. of Portions
Asparagus	(M)	40	22	20	20	50	7	25	7
Asparagus	(F)	40	40	40	0	0	0	14	17
String Beans	(M)	40	36.3	35.5	4.5	11	5	20	18
String Beans	(F)	40	40	38.5	1.5	3.8	0	16	20
Broccoli	(M)	40	16	16	24	60	6	22-25	5+
Broccoli	(F)	40	40	40	0	0	0	23-22	13
Peas	(M)	40	13.3	12.5	27.5	68.6	10	16-18	4+
Peas	(F)	40	40	40	0	0	0	10-12	20
Spinach	(M)	40	31	16	24	60	6	10	5½
Spinach	(F)	40	40	40	0	0	0	9-12	16

^MMarket; ^FFrozen.

One week maximum 25° to 35° F.
Indefinitely 0° to 10° F.

Frozen foods that have been defrosted cannot be refrozen. They should be treated as fresh perishables and used within a reasonable length of time. It has been suggested that foods which have become partially defrosted be cooked for a short time (undercooked), drained, placed in cold water and kept in the refrigerator until needed. It will then be only necessary to warm up the product to complete the cooking process. To secure the best flavor it is wise to read the directions on the package and follow them carefully.

RECIPES BY REQUEST

Macaroni Puff

Fifty Servings

6 cups cooked macaroni
6 cups scalded milk
6 cups soft bread crumbs, fine
1 cup shortening
6 chopped pimientos
Chopped parsley
½ cup chopped green pepper
3 cups grated cheese
15 eggs, separated
Salt and pepper to taste

Put together in order given, adding the egg whites last. Bake in a moderate oven about twenty minutes, like a soufflé.

Chocolate Peppermint Roll

Fifty Servings

2¼ cups flour
2¼ cups cocoa
2 tablespoons baking powder
1½ teaspoons salt
4¼ cups sifted sugar
24 egg whites, stiffly beaten
24 egg yolks beaten until thick and lemon colored
1 tablespoon vanilla

Sift flour, measure, add cocoa, baking powder and salt and sift together three times. Fold sugar gradually into egg whites; fold in yolks and vanilla. Fold in flour gradually. Pour into a pan lined with buttered paper and bake in a hot oven thirteen minutes. Turn from pan at once on to cloth covered with powdered sugar. Remove paper. Quickly cut crisp edges from cake. Spread with seven minute frosting, flavored with peppermint. Roll. Wrap in cloth until cool. Cover with uncooked chocolate frosting.—*Ruth M. Hornsby, dietitian, Memorial Hospital, Owosso, Mich.*

GRACE HOSPITAL DIAGNOSED ITS OWN KITCHEN COST PROBLEMS . . .

Prescribed **VULCAN**

GAS EQUIPMENT . . .

Result **OVER 50% SAVINGS!**

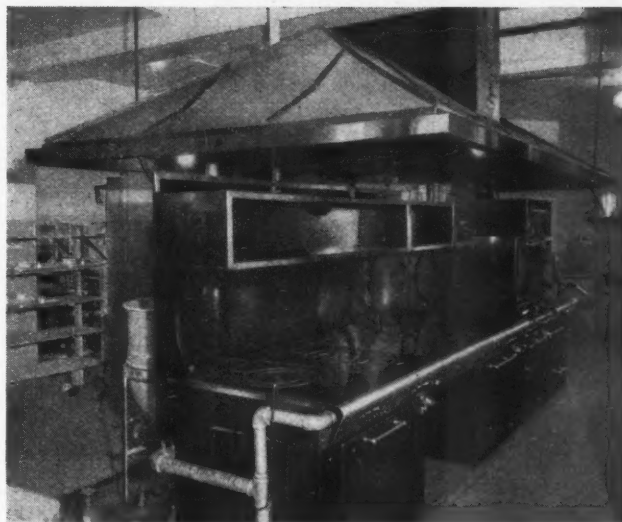
THERE are two good reasons why any hospital should modernize with Vulcan gas equipment—

FIRST—the great economy made possible by patented Radial Fin Top, automatic heat control, extra-heavy insulation, modern design.

SECOND—the improved quality of food made possible by the scientific application of heat. The operator never has to **guess**. Gas heat is **even—controlled—correct**. Nothing is over-done—or under-done. The quality of foods fit the diet.

Mr. S. G. Davidson, Superintendent of the Grace Hospital, New Haven, Connecticut, sums up the satisfaction of **many** hospitals when he says — "The installation of Vulcan ranges, broilers, and bake ovens has proved most satisfactory and I am writing to express our appreciation for your helpful suggestions, your interest and service."

In the operation of a hospital, economy is vital in every department. Save on your cooking costs with Vulcan gas equipment. Our recommendations can be of real benefit to you. Write for the booklet "Cutting Cooking Costs."



Vulcan All Hot-Top ranges with insulated heat controlled ovens, ceramic broiler and roasting ovens

Hospital Division

STANDARD GAS EQUIPMENT CORPORATION

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BOSTON—PHILADELPHIA—BALTIMORE—AURORA, ILL.—NEW ORLEANS—CHICAGO—LOS ANGELES

Italian Salad



Spaghetti
Boiled Ham
Tomatoes

Hard-Cooked Egg
Thousand Island Dressing
French Dressing

On a bed of lettuce place a mold made up of a mixture of four parts of cooked (boiled) spaghetti and one part of julienned boiled ham, bound together with a thick Thousand Island dressing. Garnish with quartered tomato and hard-cooked egg. Serve a little French dressing on the side. The spaghetti should not be cooked too much and should be seasoned and well drained. Chopped shrimp, corned beef or flaked boiled fish may be substituted for the julienned ham.—*Arnold Shircliffe, Chicago.*

Ward Tray



Vegetable soup, lamb chop with mint jelly, baked potato, buttered carrots, bread and butter, fresh fruit salad, chocolate cream pudding, milk and coffee. Prepared by *Elizabeth Tufts, chief dietitian, Wesley Memorial Hospital, Chicago.*

FOOD FOR THOUGHT

• With St. Patrick's Day in the offing, a few suggestions for favors or tray decorations may be helpful. One dietitian has a clever and easy system for furnishing that "extra" touch which delights the children and amuses the adult patients. She obtains a number of the St. Patrick's Day stickers on the market, in the form of shamrocks, clay pipes and Irish harps, fastens two gummed sides together on the end of a toothpick, sticks the toothpick into a marshmallow and sets the marshmallow afloat in the breakfast or supper cocoa. These stickers may also be used on soufflé cups filled with nuts or tiny green candies, or on greeting cards on which "Top of the Mornin' to Ye," might be lettered in green ink. A little St. Patrick's hat may be made by sticking a marshmallow on a butter wafer; a green ribbon may be tied around the "crown," and a tiny green paper shamrock stuck into the bow. A clay pipe may be made by pressing half of a green cellophane straw or a small wooden skewer into a marshmallow or large green gum drop which has been hollowed out like the bowl of a pipe.

• Pauline Murrah, nutrition consultant and instructor in nutrition for the department of health of New York City, gave a most interesting paper on her work before the New York State Dietetic Association. She stated that the department's nutrition program was built around staff education for the public health nurse. This is supplemented, she said, by the preparation of simple educational material for distribution by the entire department, which employs more than 800 public health nurses and several hundred doctors, dentists, dental hygienists and other technical field workers. She stressed the value of small group meetings with the nurses in their own districts as an opportunity of exchanging ideas and pooling information. At these meetings relief allowances are discussed and sample food budgets worked out. Problems of racial habits and taboos, market prices, and buying also are discussed.

• A possible way to prevent catching cold has been suggested by Frederick Hoelzel of the University of Chicago in a recent report. Experiments conducted by Mr. Hoelzel and other investigators have indicated that colds are fewer when the sugars and starches in the daily diet are reduced. Mr. Hoelzel believes that such a diet reduces the amount of fluid in the body tissues and thus lowers susceptibility to nose and throat infections.



The World's Foremost Foursome for Maintaining Hospital Floors



Presenting the latest improved 100 Series Finnell,—star performers every one! In your hospital, one of these will wax, scrub, polish or dry clean your floors at a saving of time and money, and with increased cleanliness and sanitation. Will get into corners and crevices and close to baseboards, under beds, tables and partitions. Silent, too! Only two precision fitted gears, housed in an extra capacity grease case.

Other models with motor on top; still others with twin disc brush rings; altogether, thirty-five types and sizes of equipment.

Whatever the area or type of your floor, there's a right Finnell to raise cleanliness standards and cut cleaning costs. Also specially prepared waxes, including Finnell Kote, the quick-setting hot wax,—and a full line of sealers and fillers, including Gloss Seal in three types, giving just the degree of penetration or thickness of film needed.

Write for illustrated literature and samples of Finnell floor materials. Free demonstration arranged at your convenience. Address Finnell System, Inc. 1403 East Street, Elkhart, Indiana.

FINNELL SYSTEM OF FLOOR MAINTENANCE

April Dinner Menus for the Small Hospital

Elizabeth W. Hayward

Dietitian, Las Encinas Sanitarium, Pasadena, Calif.

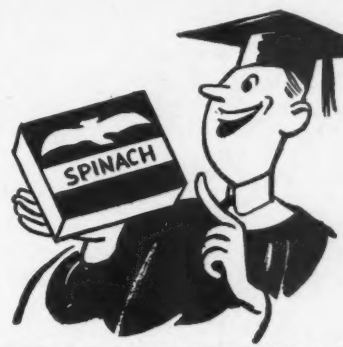
Day	Soup	Meat	Potatoes or Substitute	Vegetable	Salad or Relish	Dessert
1.	Creole Soup	Baked Filet of Sole	Escalloped Potatoes	Stewed Tomatoes, Creamed Squash	Artichoke Salad	Cooked Fruit Cup
2.	Cream of Corn Soup	New York Steaks	Browned Potatoes	Asparagus, Steamed Hubbard Squash	Ripe Olives	Apricot Ice, Fruit Pound Cake
3.	Consommé	Broiled Half Chicken	Mashed Potatoes and Gravy	Green Asparagus, Cauliflower	Grapefruit and Avocado Salad	Lemon Flake Ice Cream, Ice Box Cookies
4.	Bouillon	Roast Ribs of Beef	Baked Potatoes	Spinach, Crookneck Squash	Fresh Apple and Pear Salad	Apricot Bavarian
5.	Beef Broth With Barley	French Lamb Chops	Buttered Mashed Potatoes	Baked Zucchini, Buttered Turnips	Mint Jellied Pear Salad	Sliced Oranges, Soft Ginger Cookies
6.	Tomato Rice Soup	Roast Turkey, Jelly	Mashed Potatoes and Gravy	Spinach Loaf With Lemon, Cauliflower	Head Lettuce, Roquefort Dressing	Gooseberry Fruit Cup, Spice Cake
7.	Vegetable Soup	Roast Lamb, Mint Sauce	Parsley Potatoes	Candied Parsnips, Fresh Wax Beans	Pineapple Salad	Prune Whip
8.	Mulligatawny Soup	Filet of Sea Bass	Baked Potatoes	Diced Beets, Baked Eggplant	Tomato Aspic	Marshmallow Fruit Dessert
9.	Cream of Oyster Plant Soup	Filet Steaks	Baked Potatoes	Squash Au Gratin, Asparagus	Waldorf Salad	Caramel Arrowroot Pudding
10.	Bouillon With Crackers	Fried Chicken, Spiced Peaches	Browned New Potatoes and Gravy	Peas and Carrots, Creamed Celery	Tomato and Avocado Salad	Fresh Strawberry Ice Cream, Gold Cake
11.	Bouillon With Crackers	Lamp Chops	Peeled Baked Potatoes	Escalloped Eggplant, Crookneck Squash	Lettuce Hearts	Banana and Strawberry Cup
12.	Vegetable Soup	Roast Beef, Jelly	Baked Potatoes	Stuffed Summer Squash	Tomato and Asparagus Salad	Stuffed Peach Cecile
13.	Scotch Broth With Rice	Chicken Pie	Mashed Potatoes	Artichoke, Broiled Celery	Fresh Fruit Salad	Chocolate Ice Box Cake
14.	Consommé Royal	Broiled Top Sirloin Steaks, Banana Fritters	Baked Potatoes	Waffle Beets, Swiss Chard	Lettuce and Citrus Salad	Black Raspberry Dessert
15.	Corn Chowder	Swordfish Steaks	Boiled Potatoes	Baked Eggplant, Broiled Mushrooms	Sliced Tomato Salad	Banana Cream Cake
16.	Okra and Tomato Soup	Roast Lamb	Au Gratin Potatoes	String Beans, Kohl-Rabi	Raw Apple and Pear Salad	Charlotte Russe
17.	Purée of Vegetable Soup	Roast Turkey, Dressing and Gravy, Cranberry Jelly	Mashed Potatoes	Fresh Asparagus, Red Cabbage, German Style	Waldorf Salad	Vanilla Ice Cream, Peach Sundae, Mints, Nuts
18.	Split Pea Soup	Lamp Chops	Duchesse Potatoes	String Beans, Crookneck Squash	Assorted Olives	Strawberry Delight
19.	Mutton Broth With Barley	Roast Beef	Baked Potatoes	Creamed Celery, Baked Banana Squash	Raw Fruit Salad	Banana Whip
20.	Tomato Rice Soup	Baked Ham, Raisin Sauce	Sweet Potato Roll	Creamed Zucchini, Cauliflower	Jellied Avocado Salad	Apple Betty, Hard Sauce
21.	Manhattan Soup	Roast Lamb, Mint Jelly	New Potatoes and Peas	Swiss Chard	Cooked Fruit Salad	Apricot Whip
22.	Oxtail Soup	Baked Whitefish	Baked Potatoes	Escalloped Eggplant, Wax Beans	Sliced Tomato Salad	Date Surprise
23.	Turkey Soup	Minute Steaks, Broiled Banana	Browned Potatoes	Black-Eye Peas, Buttered Celery	Fresh Pear Salad	Lemon Snow, Custard Sauce
24.	Consommé Double	Fried Spring Chicken, Spiced Kumquats	Mashed Potatoes and Gravy	Fresh Peas, Creamed Turnips	Grapefruit and Avocado Salad	Black Walnut Ice Cream, Vanilla Cookies
25.	Consommé	Roast Rack of Lamb	Snowflake Potatoes	Carrots and Celery, Mashed Summer Squash	Fruit Perfection Salad	Macaroon Pudding
26.	Vegetable Extract Soup	Cube Steak, Spiced Prunes	Hashed Brown Potatoes	Asparagus	Sliced Tomato Salad	Pineapple Upside-Down Cake
27.	Purée of Vegetable Soup	Chicken Pie With Biscuits	Mashed Potatoes	Broiled Carrots, Eggplant Soufflé	Celeryroot and Pea Salad	Frozen Fruit Cup, Orange Juice
28.	Split Pea Soup	Broiled Lamb Chops	Browned New Potatoes	Swiss Chard, String Beans and Mushrooms	Gingerale Gelatin Fruit Salad	Red Plums, Sponge Cake
29.	Bisque of Fresh Tomato	Salmon Steaks	Natural Rice	Artichoke Soufflé, Baked Banana Squash	Orange and Avocado Salad	Lemon Ice, Pecan Lady Fingers
30.	German Potato Soup	Roast Beef	Browned Potatoes	Wax Beans, Spinach and Cress	Sugarplum Salad	Pressed Blueberry Pudding, Whipped Cream

Sunday dinner in this hospital is served in the evening.

Recipes will be supplied on request by Anna E. Boller, The MODERN HOSPITAL, Chicago.



6 THINGS YOU NEVER KNEW ABOUT SPINACH!



1.



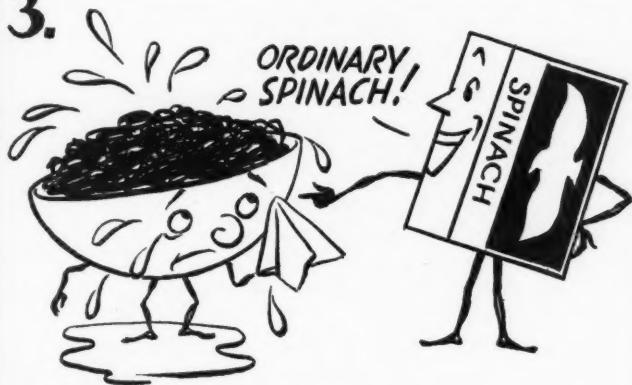
What spinach comes farm-fresh? . . . Birds Eye Spinach. Flavor sealed in right at farm by patented process of quick-freezing used for Birds Eye Foods!

2.



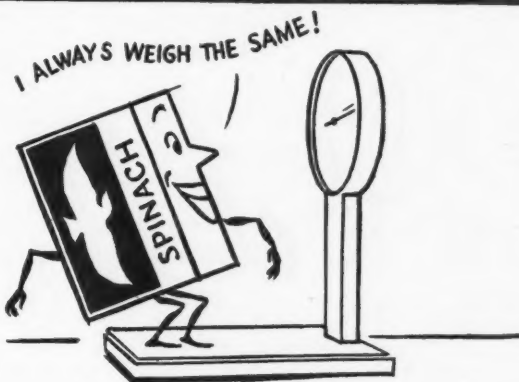
What spinach comes ready to cook? Cleaned? Sand-free—with no yellow stalks? . . . Birds Eye Spinach. Each pound washed in 20 gallons of water.

3.



What spinach comes free from excess moisture—nothing to drain off? . . . Birds Eye Spinach . . . a 40 oz. package equals $\frac{1}{3}$ bushel!

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What spinach never varies a single ounce in weight? . . . Birds Eye Spinach. For Birds Eye Spinach *never* shrinks. You get *exact* amount of servings you pay for!

5.



What spinach always keeps its sparkling field-green color, when cooked and served? . . . Birds Eye Spinach . . . that's because it is farm-fresh!

6.

What spinach can give your menu an out-of-season lift it never had before?

... IT'S BIRDS EYE SPINACH

BIRDS EYE
FROSTED FOODS
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For more information, write to Frosted Food Sales Corp., 250 Park Ave., New York City.

Monthly News Review

Vol. 50

March, 1938

No. 3

Reciprocity and Nationwide Publicity Discussed by Hospital Insurance Heads

Two important steps toward greater cooperation among hospital care insurance plans were taken at the recent conference of plan executives held in New York, February 17 and 18. The conference authorized two new committees to set up programs and make specific proposals on reciprocity among the various plans and on a joint nationwide publicity campaign.

The need for reciprocity so that subscribers to one plan needing hospital care in the area served by another plan may obtain it on the basis of a service contract rather than a dollars contract was ably presented by John A. McNamara, director of the Cleveland Hospital Service Association. Mr. McNamara was appointed chairman of a committee to give the matter further study.

The opportunities inherent in a nationwide publicity program were outlined by Maxwell Hahn and Benjamin J. Green, publicity directors of the New York and Chicago plans, respectively. They were asked to constitute a committee to present definite proposals.

A suggested accounting classification to permit valid comparisons among the various plans was presented by J. A. Smith, accountant of the New York plan, and a diagnosis classification by E. A. van Steenwyk of St. Paul. It was decided to ask each plan to study and report on the application of these two classifications to their present arrangements.

Ray McCarthy of St. Louis was named chairman of the accounting committee and Mr. van Steenwyk, of the committee on diagnosis classification.

The desirability of full family coverage in hospital care insurance plans was stressed by Reginald F. Cahalane of Boston and by Frank Van Dyk. Robert Parnall of New Haven, however, stated that he did not consider that present actuarial data were sufficiently definite to justify full family coverage.

Dr. S. S. Goldwater, commissioner of hospitals of New York City and a member of the A. H. A. committee on hospital service, urged that plans be extended to provide service to the lower

income groups through inclusion of a modest recompense for physicians. Doctor Goldwater estimated that there were 1,000,000 persons in New York who would be able to pay the annual subscription to the hospital care insurance plan if it included medical care.

Dr. Basil C. MacLean, chairman of the committee on hospital service, announced that the committee is planning to issue formal approval certificates to plans that meet its standards.

C. Rufus Rorem, director of the committee on hospital service, announced that the Social Security Board is making a study of hospital care insurance plans as part of its research program. He stated that in his opinion the control of the movement on a voluntary basis depended upon whether rates could be made low enough so that government compulsion would not be necessary to assure coverage of the low income groups.

In addition to the committees previously mentioned, E. J. Henryson of Washington, D. C., was appointed chairman of a committee on actuarial data and Michael Kelly of Cleveland was appointed to serve with Mr. Rorem on a commercial plan committee.

There were between 75 and 100 in attendance at the meetings representing thirty to forty different plans.

A. C. H. A. to Conduct Institute in Southeast During 1939

Arrangements are now being made for an institute for hospital administrators for the southeastern states to be held at Duke University, Durham, N. C., in 1939. The institute will be sponsored by the American College of Hospital Administrators cooperating with the southeastern state and regional hospital associations and Duke University.

In view of the special need for refresher courses for administrators of small hospitals in the Southeast, emphasis will be placed primarily upon the problems relating to small hospitals. The institute will be conducted according to the educational standards of the A. C. H. A.

N. Y. Hospital Will Conduct Chronic Disease Research on Rockefeller Fund Grant

An appropriation of \$66,000 for a three-year period from the Rockefeller Foundation will go toward the support of research on chronic diseases to be conducted on Welfare Island by the New York Department of Hospitals.

The research project was inaugurated two years ago and is conducted by a research staff appointed by the department of hospitals and supported in part by the City of New York. The work of the research division, which is now being carried on in temporary quarters at Metropolitan Hospital, will be transferred to the new 1600-bed Welfare Hospital for Chronic Diseases, now rapidly nearing completion.

Scientific work now under way touches such fields as rheumatoid arthritis, cirrhosis of the liver, hemophilia, arteriosclerosis, pulmonary emphysema, hypertension, acute and chronic glomerulonephritis, and use of human serums against certain chronic diseases.

Intensive study of chronic diseases was inspired by a survey of 250 chronic cases in a department hospital. It was found that while little or no progress had been made in relieving the 250 sufferers, the city had actually expended for their care the sum of \$600,000 with every prospect that the amount would be doubled or trebled before the patients were disposed of.

Upon learning these facts, the department of hospitals sought the aid of eminent scientists in an effort to study the underlying causes of costly and obstinate chronic diseases in the hope of relieving suffering, shortening the duration of treatment, raising the health level of the population and saving millions of dollars to the taxpayers.

Announces Convention Dates

The American Dietetic Association's twenty-first annual convention will be held at the Hotel Schroeder, Milwaukee, Wis., the week of October 9. Following the convention, a day's trip to Madison is being planned. Details of the program are to be worked out at committee meetings of the various sections and will be announced later.

IN THE ANEMIAS

*L*EXTRON[®] (Liver-Stomach

Concentrate with Iron and Vitamin B Complex, Lilly) combines in convenient form for oral administration, liver-stomach concentrate with iron, and promotes both erythrocyte and hemoglobin formation. It can therefore be employed to advantage in the treatment of both the primary and secondary anemias, as well as in many clinical conditions in which loss of appetite, weakness, fatigability, or undernutrition is in evidence.

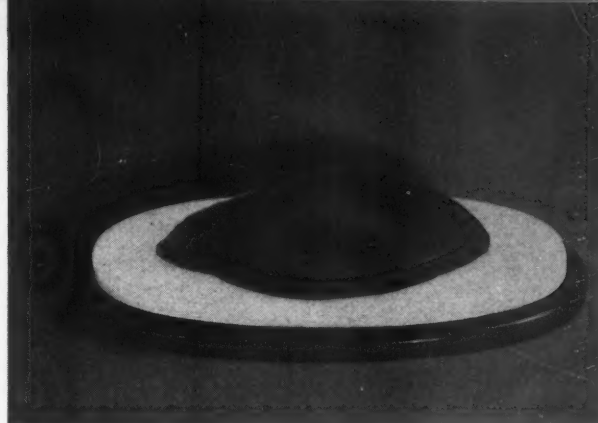
Based on therapeutic response, which is measurable with a high degree of accuracy, 'Lextron' is lower in price than any other treatment of its kind, not excluding raw liver.

Supplied in packages of 84, 500, and 5,000 pulvules.

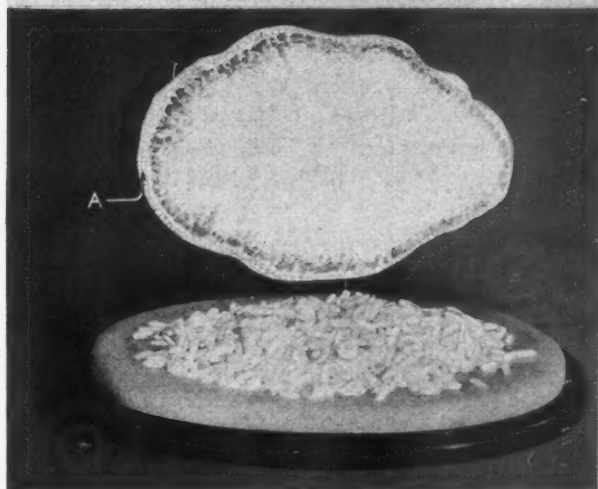
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Select Edible Liver



Unpolished Rice (Above: Cross Section)



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Synthetic Vitamin B₁

Michigan State Hospitals Prepare to Receive Bids for \$6,432,435 Projects

During March or in April it is expected that building specifications for Michigan state hospital projects, for which \$6,432,435 has been appropriated for the biennial period 1937-39, will be submitted for bids. Possibly work will be started in the late spring or early summer. At the present time none of this work is under way with the exception of a remodeling project at the Newberry State Hospital and the completion of bed facilities for 1,050 patients at the Ypsilanti State Hospital.

The appropriation has been divided among the various state hospitals as follows:

At Ypsilanti State Hospital \$400,000 will be expended for the completion of new buildings and furnishings.

Kalamazoo State Hospital has been allotted \$386,000 for fire protection, power house modernization, construction of a new tuberculosis unit to accommodate 150 patients, the addition of a laundry, and the remodeling of an old building to provide fifty additional beds.

Pontiac State Hospital has received a total appropriation of \$861,500, of which \$750,000 is for the erection of a receiving hospital and \$111,500 for fire protection measures.

Traverse City State Hospital will spend \$775,000, \$750,000 for a receiving hospital and \$25,000 for remodeling its dining room.

A total of \$830,000 will be spent at Newberry State Hospital; \$400,000 will go for establishing a unit for feeble-minded, \$250,000 for a new power plant, \$120,000 for an employees' building and the balance of \$60,000 for remodeling an old building.

The Michigan State Hospital for Epileptics at Wahjamega has been allotted an appropriation of \$1,469,000; \$500,000 will cover construction of additional buildings for adults and \$450,000, the establishment of a school unit for epileptic children. The remainder will go toward remodeling the power house and employees' buildings, distribution of water, construction of sewers and road grading.

With the \$870,000 appropriation for the Michigan Children's Village at Coldwater, the capacity of that institution will be increased by 500 patients, an industrial building will be erected and the storeroom, bakery and other shops will be remodeled.

The Michigan Home and Training School at Lapeer will spend \$540,135

to provide 300 additional beds for children, fire protection and remodeling the laundry and boys' industrial building.

An appropriation of \$115,000 for the Mount Pleasant State Home and Training School will provide additional facilities for 270 patients and do certain remodeling and repairing.

The Ionia State Hospital for the criminally insane will receive \$185,800 to increase housing facilities for 100 patients and to remodel farm buildings.

Collection Schedule Adopted by Chicago Hospital Council

Charles H. Schweppe, president, St. Luke's Hospital, Chicago, was reelected president of the Chicago Hospital Council at a meeting on February 3. Dr. A. C. Bachmeyer, director, University of Chicago Clinics, was chosen first vice president; Father John W. Barrett, diocesan director of Catholic Hospitals for Chicago, was reelected second vice president, and Robert T. Sherman, president, Evanston Hospital, was reelected secretary-treasurer.

The Norwegian-American Hospital of Chicago was elected to membership in the council. Honorary membership was conferred for a five-year term on Dr. Herman N. Bundeson, president of the Chicago board of health; Dr. Julius H. Hess; Leo M. Lyons, relief administrator, and Mrs. Arthur C. Bachmeyer, chairman of the American Hospital Association committee on hospital councils.

A proposal that the Chicago Hospital Association become the administrators' section of the Chicago Hospital Council was adopted, the association retaining its present constitution and by-laws.

Action was deferred on approving the standards prepared by the Joint Maternal Welfare Committee of Cook County for the care of infants. Meantime, however, these standards have been adopted and promulgated by the Chicago board of health. The principal provisions of the standards are reported elsewhere in this issue.

A new schedule of charges for the council's collection service was adopted. Accounts of more than \$10 collected in one payment will cost 20 per cent if they are less than six months old, 25 per cent if between six and twelve months old and 30 per cent if more than one year old. If collected in installments, the rates will be 5 per cent higher in each case. Accounts of less than \$10 or those collected through a lawyer will cost 35 per cent.

Cleveland Catholic Priests Join Hospital Insurance Plan

As far as is known the first group of Catholic priests to subscribe as a group in a plan for hospital care insurance is now being enrolled by the Cleveland Hospital Service Association. A recent letter from Joseph Schrembs, bishop of Cleveland, states that "In view of the fact that our Catholic hospitals are loath to send bills to priests and in view of the further fact that our priests are loath to accept free service from the hospitals, I feel that the enrollment of our priests in this hospital service will prove a real blessing to both hospitals and clergy. I heartily recommend this step to you."

This is not, however, the first group of Catholic religious workers to enroll in the Cleveland plan since it now includes members from three orders of Sisters. In spite of the fact that these orders themselves operate hospitals, they preferred to provide hospital care for their own members through the Cleveland Hospital Service Association.

National Nurses' Associations Announce Convention Theme

"The Individual Nurse's Responsibility for Professional Progress" will be the central theme of the biennial convention of the three national nursing organizations, the American Nurses' Association, the National League of Nursing Education and the National Organization for Public Health Nursing, to be held in Kansas City, Mo., the week of April 25.

Discussions will center around the preparation needed for effective nursing service. Among the speakers who will address the joint sessions are Effie J. Taylor, dean of the Yale University School of Nursing and president of the International Council of Nurses, who will speak at the opening session on "The Nurse as a Member of Her Profession"; Dr. C.-E. A. Winslow of the Yale University School of Medicine, who will speak on "Organizing for Better Community Service," and Rabbi Abba Hillel Silver of Cleveland, who will speak on "Spiritual Values in the Profession of Nursing."

In addition to the joint sessions, each organization is holding special meetings for its members, at which problems and questions concerning nursing service and education will be discussed.

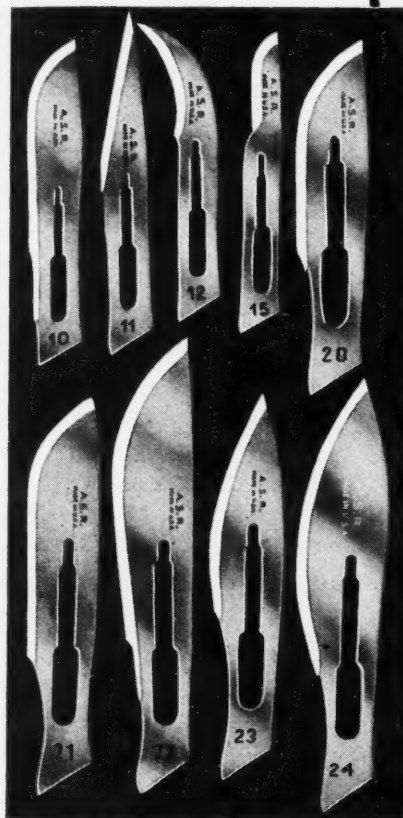
Preceding the convention, on April 23 and 24, the National Organization for Public Health Nursing is conducting a series of institutes.

Identical Edges lessen nervous tension



The nervous tension experienced by surgeons during operations is frequently intensified by uncertain, variable surgeon's blades. This disturbing influence has recently been eliminated by the invention of identical edges—a feature of new, improved A. S. R. Surgeon's Blades.

Made by an exclusive manufacturing process, each blade has exactly the right degree of keenness as determined by consultations with leading surgeons. Why not acquaint yourself with this discovery by sending the coupon for complimentary blades?



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10 gross and more	. 11.28 per gross

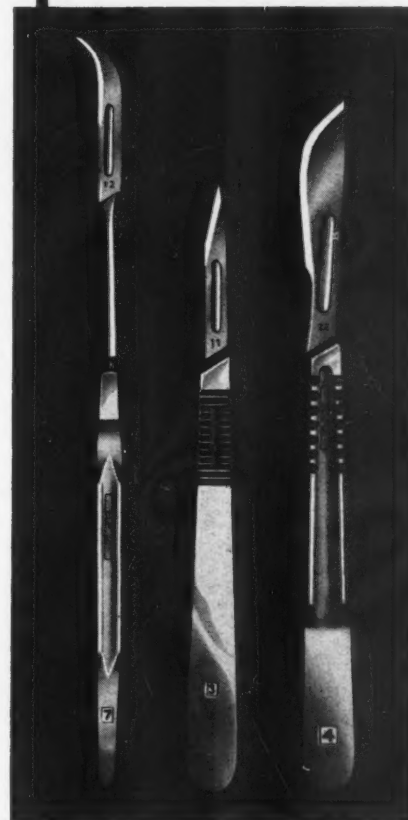
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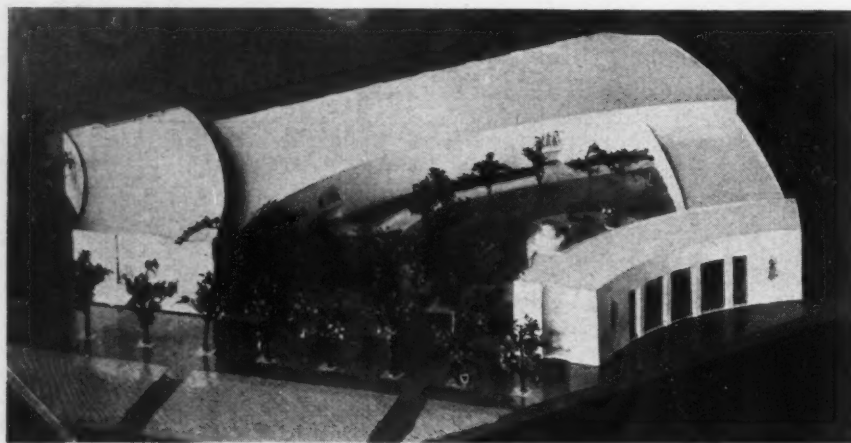
Laymen Will Learn All About Hospitals From Exhibit at New York World's Fair

What happens to a patient in a hospital will be dramatically portrayed before some 50,000,000 persons expected to attend the New York World's Fair in 1939. Approximately 1,200 square feet will be utilized in telling the hospital story in the Medical and Public Health Building as part of a two million dollar project whose function it will be, through adequate and properly integrated exhibits, to furnish the layman with a true picture of all the forces cooperating to protect his health.

In the huge Hall of Medical Science, for example, with its twenty or more

with his diagnostic examinations, and is admitted to the ward with the various treatments accorded him until his final discharge with social service. Paralleling this procedure will be that of a private surgical case, arriving by ambulance, his assignment to a private room, examinations and consultations, the operating room, ensuing convalescence, with food service and nursing, and finally paying his bill on the way out.

It will also be the purpose of this exhibit to make the layman aware of the many people who contribute to his recovery but whom he seldom, if ever,



Scale model of the Medical and Public Health Building at the New York World's Fair, in which 1,000 square feet will be used to show what happens to a patient at a hospital.

sections devoted to disease and its prevention and treatment, complete units will be given over to hospitals, and organized care of the sick, dentistry and oral hygiene, pharmacology and drugs, and forensic medicine including toxicology, alcoholism and drug addiction. The Hall of Public Health will give recognition to the important rôles which engineering, chemistry and other sciences play in helping man keep alive and adapt himself to his environment.

Dioramas, moving figures and motion pictures, gadgets that work at the touch of a button, lighting and sound effects, murals, cross-sections and giant figures will contribute to the drama of the exhibits. Tentative plans for telling the hospital story include a vertical section in relief of a modern hospital building with successive lighting of different sections, to show what is done for a typical medical case and a typical surgical case.

The progress of the medical patient will be traced as he is admitted through the out-patient department, proceeds

sees. The background will be illuminated to show representatives of all the departments and services—building maintenance, grounds maintenance, laundry, housekeeping, dietary, business office, purchasing and stores department, admission office, pharmacy, heat, light and power, trustees, social service, out-patient department, records, laboratory and x-ray.

The financial side of the hospital, too, will be shown graphically by the four legs of a hospital bed made up of dollars, showing that 60 per cent of the receipts comes from patients, 30 per cent from government and from 5 to 10 per cent from endowments. Besides this large diagram will be one or two smaller diagrams showing that the bed cannot stand straight if the 10 per cent or the 30 per cent is not there.

The rural hospital will be presented as a health center and there will be fundamental figures about hospitals in the United States showing graphically, for example, that every four seconds a person enters a hospital, the percentage that leaves the hospital cured and the

percentage of babies born in hospitals. There also will be on view close-ups of an operating room, anesthesia room, examining room and x-ray room to the extent of space available.

Sponsoring this hospital exhibit is a group of approximately ten manufacturers, leaders in their respective lines, who with a special committee headed by Dr. Claude W. Munger are engaged in working out the details.

Members of Doctor Munger's committee are: Dr. Michael M. Davis, Homer Wickenden, Dr. Adam Eberle, Dr. Bert W. Caldwell, Claribel A. Wheeler, Dr. W. S. Rankin, Father Alphonse M. Schmitt, Dr. Haven Emerson, Dr. E. H. L. Corwin, Charles F. Neergaard, Dr. Arthur C. Bachmeyer, Dr. Mark L. Fleming, Raymond P. Sloan and Dr. Charles F. Wilinsky.

In addition to the exhibits another important feature of the Medical and Public Health Building will be the Professional Club, where representatives of sponsors may meet with hospital administrators and physicians to discuss the application of their products to the hospital and medical fields. There also will be a Theater of Hygiene offering a continuous program of demonstrations, motion pictures and lectures by distinguished scientists.

Dr. Victor Heiser is chairman of the general advisory committee on medicine and public health, and Dr. Louis I. Dublin is chairman of the executive committee that is supervising creation of the individual exhibits through more than forty sub-committees. Homer N. Calvert is director of health exhibits.

Protestant Hospital Association Announces Convention Plans

The American Protestant Hospital Association will open its convention in Dallas on September 23 with an "association night" program beginning at 8 p.m., according to a decision reached at a meeting of the board of trustees last month.

The sessions of the protestants will continue through Saturday and Sunday morning. Special emphasis is to be placed on those problems which are unique to church hospitals. A two-hour round table is scheduled for the latter part of the Saturday morning session and a similar round table for the afternoon session.

A brief session from 9 to 10 o'clock on Sunday morning will be led by the women members of the association. Other members of the association will make addresses at Dallas churches.

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New York State Hospitals Oppose C. I. O. Legislation for Mandatory 8-Hour Day

The hospital association of New York State has launched a fight to defeat a C. I. O. sponsored bill, introduced into the general assembly, calling for a mandatory eight-hour day for hospital employees.

According to the association's legislative committee: "This is an attempt to apply standard industrial regulations to hospital operations. The application is not practicable, and it is not fair. Hospital operations are controlled by human needs and not by production schedules. You can't apply the same rules to the operation of a hospital as you would apply to a shoe factory.

"For a great many of the hospitals in New York State, a straight eight-hour day for employees would mean a salary cut, or an increase in rates or both. Hospitals are public institutions, not profit-making enterprises. Hospital employees are paid little enough for the work that they do; nothing should be done to decrease their pay. An increase in rates, generally, would decrease use of our hospitals, and lead many of our institutions into financial disaster.

"All hospitals in the state association favor the principle of the eight-hour day and are working earnestly toward the point where it can be adopted generally without destroying hospital routine and imposing an unbearable financial strain."

Leaders in the state hospital association said that imposition of the eight-hour day at this time would not only be a financial blow to most of the hospitals in upstate New York, "but in many instances would force a decrease in the high standards of service maintained by many small, meagerly endowed institutions which are hard pressed to meet current expenses."

Canadian Nurses Propose Dominion Registration Plan

The Canadian Nurses' Association has advanced a plan for dominion registration of nurses incorporating the establishment of a Canadian College of Nurses or a Canadian Council for Dominion Registration of Nurses to be administered by a board of management.

The proposed board would be empowered to adopt regulations for the examination and registration of nurses, set fees and methods of collection, sus-

pend members or registrants and penalize for the unauthorized use of the title, and develop nursing research.

Under the plan the board may accept the annual report of provincial inspectors of nursing schools, but shall reserve the right to make independent inspection if advisable. A nurse who holds a diploma from an approved school of nursing may be eligible for examination for dominion registration, provided she is eligible for admission, without condition, to the first year in the faculty of arts of any approved Canadian university; that she is not less than twenty-one years of age, and that she has had the course in theory and clinical experience required by the regulations of the board, in accordance with the curriculum for schools of nursing prepared by the Canadian Nurses' Association.

Celebrates Tenth Anniversary

A special celebration in observance of the tenth anniversary of the establishment of the new St. Elizabeth's Hospital, New York, is under way. The new building was erected in 1927 and opened to the public in December of that year. The hospital originally was formed in 1874 by women, members of the Third Order of St. Francis.

Plenty of Action Taken at Midyear Hospital Meetings

The most extensive and best attended midyear hospital meetings ever held took place in Chicago the middle of February. The six new councils of the A. H. A., the board of trustees of the A. H. A., the presidents, secretaries and legislative chairmen of the state and regional hospital associations and the officers and board of regents of the A. C. H. A. all met in Chicago.

Plans for the A. H. A. convention in Dallas next fall were outlined by the councils and then turned over to the president and executive secretary of the A. H. A. for completion. Other action taken by the A. H. A. board of trustees, most of it on recommendation of the various councils, included reconstituting the joint committee of the three national associations, recommendation that hospitals adopt the calendar year as the fiscal year, agreement that hospitals be represented at the New York World's Fair, approval of statements regarding care of public welfare cases, approval of a statement of principles of relationship between anesthetists and hospitals for the employment of a full-time secretary and approval of a study on construction and operation of tuberculosis sanatoriums.

St. Vincent's Children Go to Opera

Lifelike 10-inch models of Metropolitan opera singers, dressed in copies of the stage costumes, performed recently before an audience of children at St. Vincent's Hospital, New York, in a marionette production of "The Barber of Seville." A radio broadcast of a matinee performance from the Metropolitan Opera House was used to give voice to the seven marionettes who performed on a miniature reproduction of the Metropolitan stage.

Lily Pons, John Charles Thomas, Bruno Landi, Pompilio Malatesta, Wilfred Engelman, Ezio Pinza and Irra Petina went through all the correct operatic contortions as their tiny bodies vibrated with the magnificent power of their voices. The marionettes gave a convincing although exaggerated performance, wagging their heads vigorously as they "sang," stretching on tiptoe as they reached for high C and occasionally leaping high off the floor.

There were few casualties during the performance, although those that occurred seemed to delight the audience in plaster casts more than the charming arias. When "John Charles

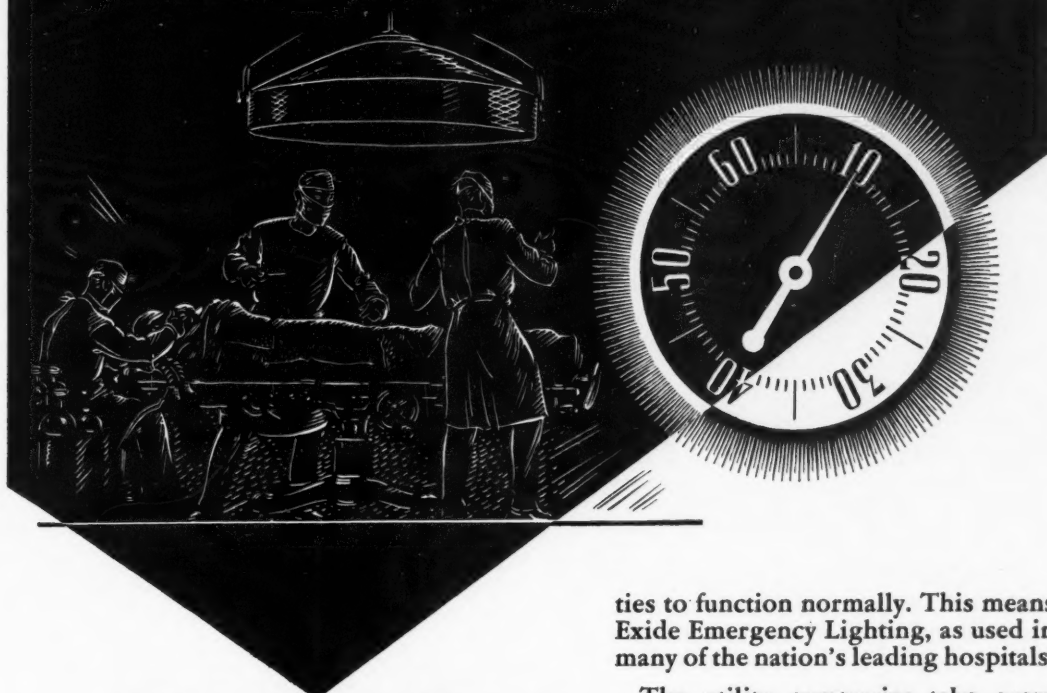
Thomas" rapped his head smartly on the floor three times while taking his bows for "Largo al Factotum," there was a tittering from the wheel chairs.

A louder laugh followed when a 12-inch ruler tumbled from the flies, striking "Miss Pons" on the head with the proportionate force of a falling girder. Miss Pons lost none of her aplomb, but went on singing without a falter as a huge hand groped out on the desk-top stage and pulled the rule into the left wing.

The idea for this synchronization of opera music with the play for children was suggested by the Misses Gerry and Marjorie Lewis, daughters of the assistant general manager of the Metropolitan, and the performance was sponsored by Lily Pons and John Charles Thomas. Louis Katonah of the opera's technical staff constructed the stage.

The puppet controls were operated by Mr. and Mrs. William Hess. Mrs. Hess, a teacher at a public school in The Bronx, designed and dressed the puppets to resemble opera singers. Four of the string manipulators were boys belonging to marionette clubs.

If sudden darkness strikes your operating room



it's the first 60 seconds that count

EVEN with the fine organization and excellent discipline of a hospital, it might take minutes to marshal makeshift lighting facilities, in case an operating room were suddenly plunged into darkness. But minutes are long—every instant counts in the midst of an operation.

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ties to function normally. This means Exide Emergency Lighting, as used in many of the nation's leading hospitals.

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Coming Meetings

- Association of Western Hospitals.**
Next meeting, San Francisco, Feb. 28-Mar. 3.
- Western Conferences of the Catholic Hospital Association.**
Next meeting, San Francisco, Feb. 28-Mar. 3.
- Association of California Hospitals.**
Next meeting, San Francisco, Feb. 28-Mar. 3.
- Oregon Association of Hospitals.**
Next meeting, March 8.
- New England Hospital Association.**
Next meeting, Boston, March 10-12.
- Iowa Hospital Association.**
Next meeting, Burlington, March 28-30.
- Ohio Hospital Association.**
Next meeting, Columbus, April 5-7.
- Southeastern Hospital Conference.**
Next meeting, Birmingham, Ala., April 7-9.
- Alabama Hospital Association.**
Next meeting, Birmingham, April 8.
- Tri-State Hospital Conference (Virginia, North Carolina, South Carolina).**
Next meeting, Columbia, S. C., April 14-16.
- South Carolina Hospital Association.**
Next meeting, Columbia, April 14-16.
- Mississippi Hospital Association.**
Next meeting, Jackson, April 18.
- Mid-West Hospital Association.**
Next meeting, Kansas City, Mo., April 21-22.
- American Nurses' Association, National Organization for Public Health Nursing and National League of Nursing Education.**
Biennial convention, Kansas City, Mo., April 24-29.
- Pennsylvania Hospital Association.**
Next meeting, Pittsburgh, April 27-29.
- Tri-State Hospital Association (Indiana, Illinois, Wisconsin).**
Next meeting, Chicago, May 4-6.
- New York State Dietetic Association.**
Next meeting, Syracuse, May 5-6.
- Hospital Association of New York State.**
Next meeting, Buffalo, May 18-20.
- Minnesota Hospital Association.**
Next meeting, Minneapolis, May 19-21.
- New Jersey Hospital Association.**
Next meeting, Jersey City, June 2-4.
- Manitoba Hospital Association.**
Next meeting, Selkirk, June 23-24.
- Michigan Hospital Association.**
Next meeting, Marquette, June 23-24.
- Canadian Nurses Association.**
Next meeting, Halifax, N. S., July 4-9.
- American Hospital Association.**
Annual convention, Dallas, Tex., Sept. 26-30.
- American Dietetic Association.**
Next meeting, Milwaukee, Oct. 9-14.
- Missouri State Nurses' Association.**
Next meeting, Kirksville, Oct. 17-19.
- Ontario Hospital Association.**
Next meeting, Toronto, Oct. 19-21.
- American Public Health Association.**
67th Annual Meeting, Kansas City, Mo., Oct. 25-28.
- Kansas Hospital Association.**
Next meeting, Pratt, Oct. 29.

Bequeathed Funds for Orthopedics

Children's Hospital of Philadelphia has been bequeathed \$100,000 and the remaining 20 per cent of the residuary estate of the late Arthur S. Lea for establishing an orthopedic department.

Others receiving bequests are Jefferson Medical College for research in streptococcus infection, the Pennsylvania Hospital, the College of Physicians of Philadelphia, the Drexel Institute, the Red Cross, the Academy of Natural Sciences of Philadelphia, the Franklin Institute, the Philadelphia Zoological Gardens, Harvard University, Princeton University, University of Pennsylvania and the Pennsylvania Museum of Art.

Dr. R. C. Buerki to Direct Medical Education Studies

The recently formed Commission on Graduate Medical Education has asked Dr. Robin C. Buerki, administrator of the Wisconsin General Hospital, to accept the position of director of studies for a two-year period. Doctor Buerki has agreed to accept if he can obtain a leave of absence from the University of Wisconsin.

The commission is headed by Dean Willard Rappleye of Columbia University's College of Physicians and Surgeons. It will attempt to lift the standards of graduate medical education in the United States and to increase the opportunities for physicians to obtain such further training. The commission is concerned not only with formal university courses but also with internships, residencies and the many informal types of education for physicians actually in practice. Part of its work will be concerned with providing

sufficient opportunity for physicians who wish to qualify by graduate study and residency for examination by one of the several specialty boards.

Members of the commission, in addition to Doctors Rappleye and Buerki, are Drs. A. C. Bachmeyer, Fred Adair and A. J. Carlson of the University of Chicago; Kenneth Blackfan of Harvard; Reginald Fitz of Boston University; Harold L. Rypins of Albany, N. Y.; Allen O. Whipple of Columbia; Alfred Stengel of University of Pennsylvania; John S. Rodman, Woman's Medical College of Pennsylvania; Walter F. Donaldson, secretary, Pennsylvania Medical Society; James D. Bruce, University of Michigan; Frank Wilbur Hartman, Detroit; John B. Youmans, Vanderbilt University; William P. Wherry, University of Nebraska; Donald C. Balfour, Mayo Clinic; Evarts A. Graham, Washington University; Franklin G. Ebaugh, University of Colorado, and Ray Lyman Wilbur, Stanford University.

NEW BUILDING PROJECTS

MARTINEZ, CALIF.—Contracts have been awarded for construction of a \$31,527 twelve-bed addition to the Contra Costa County Hospital. Work is to be started immediately.

AGNEW, CALIF.—The \$774,000 construction program, which will add new facilities to the Agnews State Hospital was begun recently as excavation for a \$20,000 refrigeration plant near the hospital kitchens was started.

HARTFORD, CONN.—A \$550,000 infirmary and administration building for Cedarcrest Sanatorium, planned by the state department of public works, is expected to be under construction this spring.

JACKSONVILLE, FLA.—The federal government will supply \$137,378 of a \$257,276 building project at the Duval County Hospital, which will permit an increase of 160 beds in the hospital, in addition to an extension of other service possibilities for the poor.

LAFAYETTE, LA.—The new \$300,000 state charity hospital was dedicated recently as work began on the main building. The Negro ward already has been completed. Other buildings in the group to be constructed are interns' and administration building, isolation hospital, boiler room, laundry and garage building and nurses' home. All buildings are constructed of steel and cement, fireproofed, except the Negro ward building, which has been built of frame and stucco.

TARBORO, N. C.—A 300-bed veterans' hospital for eastern North Carolina was assured definitely by General Frank T. Hines, administrator of veterans' affairs, who announced that President Roosevelt formally has approved the allocation of \$1,500,000 for the purpose.

NEWARK, N. J.—The new \$500,000 south wing of the Hospital of Saint Barnabas and for Women and Children was opened to patients recently.

NEW YORK, N. Y.—A nine-story \$3,000,000 tuberculosis hospital with accommodations for 530 patients will be started this year at Jamaica, Queens, according to Dr. S. S. Goldwater, commissioner of hospitals. It will be known as the Triboro Hospital for Tuberculosis and will adjoin the Queens General Hospital. Plans have been drawn by the New York firm of Eggers and Higgins. Special emphasis has been placed on providing light and air through open balconies and roofs and glass-enclosed solariums. The hospital will be of light gray brick with limestone trim. The walls of the upper floors will be of clear glass, and on each floor will be three glass-enclosed solariums, one at the center and one at each end. Atop the wings will be open and closed roofs.

NORRISTOWN, PA.—Contract has been awarded for construction of the new Montgomery Hospital at a bid of \$209,000. Completion of the structure is scheduled for December 1.

From "Sick Rooms" To Sanatoriums

Hospitals Have Used Webb's Alcohol



CONVALESCENTS TEND THE SICK-1873

T. F. Healy Collection

IN their own day, upholstered, heavily-draped rooms represented the best in hospital wards. Today, we would call them "sick rooms." Medical progress has replaced their ornate splendor with Spartan simplicity—and sanatoriums.

Starched uniforms, antiseptics and white walls were not adopted overnight. Each was accepted only after long experience proved their worth. The medical profession demands that everything it uses pass the "test of time."

That is why Webb's alcohol enjoys such widespread acceptance. Since 1835 the House of Webb has been supplying pure alcohol to hospitals. For 102 years the name of James A. Webb & Son has been a symbol of quality.

Yet more than tradition is behind Webb. Thorough technical resources—those of the

U. S. Industrial Alcohol Co., world's largest manufacturer of industrial alcohol—have safeguarded and improved Webb quality since 1915.

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BRANCHES IN ALL PRINCIPAL CITIES

Names in the News

Administrators

FRED SHARP has been appointed superintendent of the White Plains Hospital, White Plains, N. Y. Mr. Sharp formerly was associated with New York Hospital.

LOUIS MILLER JR., executive director of Beth Israel Hospital, New York, has resigned his post with that institution. NEWMAN M. BILLER has been appointed executive director to succeed Mr. Miller. Mr. Biller studied hospital administration at the University of Chicago.

MRS. ELIZABETH NICHOLS, R.N., superintendent of the Nichols Memorial Hospital, Battle Creek, Mich., has been appointed superintendent of the new community hospital of that city.

WARD F. ARCHER has resigned as assistant director of the Roosevelt Hospital, New York.

JAMES T. HANLON, former director of safety at Scranton, Pa., and defeated mayoralty candidate at Scranton last November, has been appointed superintendent of Scranton State Hospital. He replaces WILLIAM D. ENTLEY, who was dismissed February 1 on charges of mismanagement. Mr. Entley blamed political pressure for his dismissal. Both the dismissal and appointment must be approved by Governor Earle.

SISTER DOMINICA MARIA has been appointed superintendent of Seton Hospital, New York. She formerly was superintendent of the New York Foundling Hospital and was succeeded in that position by SISTER AGNITA MIRIAM, who has been director of the boarding-out department of the hospital.

MARY DEWEES has resigned as superintendent of the Delaware Industrial School for Girls at Claymont to become superintendent of the New York Training School for Girls at Hudson, N. Y.

THOMAS KILPATRICK JOHNSTON, for twenty-two years office manager of the Dallas Medical and Surgical Clinic Hospital, Dallas, Tex., has been made superintendent.

GERTRUDE MOCK recently assumed the superintendency of the Phoebe Putney Memorial Hospital, Albany, Ga., succeeding the late HELEN BLANCHARD. CLARA DAVIS was elected assistant superintendent.

DR. T. DWIGHT SLOAN, for more than seven years superintendent of the New York Post-Graduate Medical School and Hospital, New York, has assumed the superintendency of the Flagler Hospital, St. Augustine, Fla.,

succeeding C. O. LAMONT, who has been superintendent for more than six years.

A. C. SEAWELL has succeeded L. R. PAYNE as assistant superintendent of the Baylor University Hospital, Dallas, Tex.

FLORENCE RITCHIE has retired from the superintendency of the Charlotte Eleanor Englehart Hospital, Petrolia, Ont.

DR. GEORGE M. SIMMONDS has been appointed acting superintendent and chief surgeon at the Shamokin State Hospital, Shamokin, Pa., to fill the post left vacant by the resignation of DR. ROBERT Y. GRONE. Doctor Grone and four of his aides resigned recently as the result of friction with the board of trustees. When asked for a detailed explanation, Doctor Grone stated that certain board members attempted to dictate concerning employment of new personnel and also interfered with disciplinary measures which he outlined as hospital procedure.

SUZANNE M. FREEMAN, superintendent of Hahnemann Hospital, Worcester, Mass., who will in June celebrate her twenty-fifth anniversary as an executive there, and FANNIE HINES of West Boylston, the first graduate of the nurses' training school, were honored recently at a reception and tea.

MABEL D. GREEN, Belvidere, N. J., recently was elected superintendent of the Pottstown Homeopathic Hospital, Pottstown, Pa., succeeding Mrs. DOROTHY WANGER THALMER, who resigned. Miss Green has been at the hospital since December 27, observing conditions and familiarizing herself with her new duties.

RAY L. AMBERG, superintendent of the University of Minnesota Hospital, Minneapolis, was elected president of the Minneapolis Hospital Council recently succeeding Dr. F. O. HANSON, superintendent of the Swedish Hospital, and president for the last two years.

Department Heads

MARY RUTH CURFMAN has been appointed executive dietitian at St. Luke's Hospital, New York. Miss Curfman formerly was on the dietetic staff of New York Hospital.

MRS. EDITH TILTON AITKIN has resigned from the dietetic staff of the Royal Prince Alfred Hospital, Sydney, Australia, and is now doing consultant work with various schools and hospitals in that country.

HARRIETT L. BEEK, R.N., became head of the school of nursing at Mount Sinai Hospital, New York, on February 1. Miss Beek is a graduate of the Hartford Hospital School of Nursing, Hartford, Conn., and holds the B.S. degree in nursing education from Columbia University.

MRS. O. A. BRODERDORP has been appointed superintendent of nurses at the Wyoming State Hospital, Evanston, Wyo., succeeding Mrs. JENNIE BACKENHORN, who resigned. Mrs. ALTHERA OLSON of Evanston has been appointed to succeed MARGARET McALLISTER as supervisor of nurses.

RENA DAVIS MOORE, R.N., of the New England Baptist Hospital, Boston, has taken over her new duties as superintendent of nurses and principal of the Meriden Hospital School of Nursing, Meriden, Conn. She succeeds Mrs. SAIDEE N. HAUSMANN, R.N., who resigned because of ill health.

SARAH M. BAILEY, formerly director of nurses at Christ Hospital, Jersey City, N. J., has accepted the position of director of nurses at the New York Polyclinic Hospital, New York.

HESTER L. JOHNSON has been appointed superintendent of nurses at St. Barnabas Hospital, Portland, Me. She is a graduate of the Massachusetts Women's Hospital, Boston, and has done postgraduate work at the Boston Lying-In Hospital and Simmons College.

HAZEL EMMETT, formerly instructor and supervisor of the private patient nursing service of New York Hospital, is now superintendent of nurses at the Manhattan Eye, Ear and Throat Hospital, New York.

Trustees

DR. FRED W. RUSSE, vice president of the board of trustees of St. Luke's Hospital, St. Louis, has been elected president of the Hospital Council of St. Louis. MRS. GEORGE D. MARKHAM, president of the board of St. Louis Children's Hospital, was elected vice president; MURIEL ANSCOMBE, administrator of Jewish Hospital, secretary, and E. E. KING, administrator of Missouri Baptist Hospital, treasurer.

FRANK L. RICHARDSON has been elected president of the Newton Hospital, Newton, Mass., for the coming year. Three new trustees who were appointed are: CHARLES M. CUTLER of Newtonville, W. ELLIOTT PRATT JR. and MRS. ROBERT L. STUDLEY of Wellesley.

W. P. WILTSEE has been elected president of the Roanoke Hospital, Roanoke, Va., succeeding C. FRANCIS COCKE.

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CANTON, OHIO

MILTON SOLOMON, former deputy controller, recently was installed as president of the crippled children's division, Jewish Sanitarium and Hospital for Chronic Diseases, Brooklyn.

CHARLES D. DRAYTON has been elected president of the board of directors of Children's Hospital, Washington, D. C. THOMAS B. SWEENEY was elected first vice president; ROBERT B. SPOPE, second vice president, and DR. JOHN ALLEN TALBOT, secretary.

ROBERT K. WHEELER recently was reelected president of the Fairview Hospital board of trustees at Great Barrington, Mass.; JOHN B. HULL was named vice president and WILLIAM T. PLACE, treasurer.

NILS BJORK was elected president of the board of trustees of the Fairlawn Hospital, Worcester, Mass., recently.

CLIFFORD S. ANDERSON was reelected president of the Worcester City Hospital, Worcester, Mass., for the twenty-third year, and DR. GEORGE A. MACIVER was named superintendent for the eleventh year, at the recent annual meeting.

JUDGE W. R. DONHAM, a leader in the organization and establishment of the Baptist State Hospital, Little Rock, Ark., has been elevated to a justiceship of the Arkansas Supreme Court. Judge Donham has been chairman of the hospital board since 1928.

Deaths

WILLIAM G. ROBERTS, superintendent of the Bayonne Hospital and Dispensary, Bayonne, N. J., died suddenly at his home on January 21.

DENZEL M. PITTMAN died January 27 at Griffin, Ga., where he was business manager of Strickland Memorial Hospital. In 1929 Mr. Pittman was appointed assistant to the administrator of the Indiana University Medical Center and Hospitals at Indianapolis. In 1934 he left that post to become secretary to the superintendent of the Methodist Hospital, Indianapolis. After remaining a year and a half in that post, he took postgraduate work at the University of Chicago and then received the appointment at Strickland Hospital.

DR. MARIE L. CHARD, a member of the board of trustees of the New York Infirmary for Women and Children and former head of the institution's surgical department, died recently at the age of seventy years. Although Doctor Chard had been retired from active practice for about nine years, she was a member of the hospital's consultant staff at the time of her death.

DR. JOHN N. RYAN, superintendent of the Passaic Municipal Hospital, Pas-

saic, N. J., and health officer for twenty-six years, died recently.

DR. HENRY H. DONALDSON, noted neurologist, who for thirty-two years had directed neurologic research at the Wistar Institute, an auxiliary division of the University of Pennsylvania, died recently of pneumonia at the age of eighty years.

CHRISTINE S. MACLEOD, R.N., superintendent of the Lowell General Hospital, Lowell, Mass., died February 11, soon after the opening of the new Hanchett Memorial unit. CARRIE B. KNOWLTON, R.N., is acting superintendent.

INGERSOLL BOWDITCH, for many years treasurer and a member of the board of trustees of Faulkner Hospital, Jamaica Plain, Mass., died recently following a brief illness. Mr. Bowditch was active in hospital trustee work throughout New England and a familiar figure at meetings of the state and national hospital conventions.

Miscellaneous

DR. MELVILLE H. MANSON, former special representative of the American College of Surgeons, has been appointed medical associate in the rural hospitals division of the Commonwealth Fund.

DR. ALLEN KANE, medical superintendent of the Municipal Sanatorium at Otisville, N. Y., since Aug. 1, 1935, has been appointed, under civil service rules, director of the newly created division of tuberculosis in the New York City Department of Hospitals. The appointment became effective March 1.

W. E. AVERY JR. of Columbia, S. C., has been named business manager of the R. F. Strickland & Son Memorial Hospital, Griffin, Ga., succeeding the late D. M. PITTMAN, who died January 27.

A. G. STASEL, superintendent of the Eitel Hospital, Minneapolis, Minn., was named president of the Minnesota Hospital Service Association recently. Other officers elected were PHILIP RAY, president of the First Trust Company of St. Paul, vice president; A. M. CALVIN, executive manager of Midway and Mounds Park Hospitals, St. Paul, reelected secretary, and A. A. McRAE of Minneapolis, reelected treasurer.

Medical Professionals Join C. I. O.

One hundred of the 408 physicians and sixteen of the forty-two dentists employed by the New York department of health are said to have joined the C. I. O. union of state, county and municipal workers.

Chicago Hospital Enjoined From Appropriating Name of the Late Will Rogers

A Chicago hospital, formerly known as the Rogers Park Hospital and the Rogers & Post Hospital, which had incorporated under the name of the Will Rogers Memorial Hospital, was enjoined recently by federal court decree from using the name of the late humorist. All reference to Will Rogers in the name of the hospital was to be expunged within five days.

The order was issued on complaint of the Will Rogers commission of Washington, D. C., and its affiliate, the Will Rogers Memorial Fund, of New York, that the hospital had conducted a personality contest and nationwide lottery in the guise of a charity fund. It also was charged that the hospital incorporated under its present name without permission of the Rogers commission or of Rogers' widow.

Meanwhile additional action is being taken against the hospital by the Illinois attorney general who started *quo warranto* proceedings against the hospital, asserting its charity fund operations, in which tickets were offered for 50 cent donations, violated the lottery laws. A finding against the hospital can result in the withdrawal of its charter or a \$25,000 fine.

Minnesota Hospital Institute Draws Sectional Registration

The second annual institute for hospital administrators of the Minnesota Hospital Association was held at the University of Minnesota, January 27 to 29, with a total registration of seventy-two administrators. In addition to those registering from Minnesota there were nine administrators from the Dakotas and Iowa and one administrator from China.

A faculty of twenty-one conducted the lectures and discussions during the three-day session. Eight of those who lectured before the institute were members of the faculty of the university. The others were well-known hospital men. Those from outside of Minnesota were Paul Fesler, Wesley Hospital, Chicago; Arden Hardgrove, assistant executive secretary, American Hospital Association; George Kienholz, St. Mary's Hospital, Pierre, S. D.; Alden B. Mills, managing editor, The Modern Hospital; Joseph Norby, Columbia Hospital, Milwaukee, and Gerhard Hartman, executive secretary, American College of Hospital Administrators.

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READER OPINION

Averages Without Meaning

Sirs:

I recently reviewed with mixed feelings a large amount of statistical material concerning hospitals and was left more convinced that ever of the futility of comparative statistics of this kind. Only hospital administrators of wide experience and with intimate knowledge of the institutions listed in the many sheets could properly interpret and evaluate the figures.

Listing of averages, like the "average ratio of patients per nurse" and the "average ratio of employees per patient," seems to me a most inadequate way of comparing the work of one institution with that of another. One might continue endlessly to obtain averages like these based on many other phases or fragments of hospital organization and its work. These are only part pictures and are totally misleading, unless the reader knows the hospital well and can appraise its environment, its plant, its board, its staff, its resources, the broadness and essential liberalness of its medical policy, in fact, all of the many elements which go toward making up the totality of a hospital.

Figures Are Meaningless

The danger of statistical reports of this sort is that sweeping inferences may be drawn by the uninitiate without any warrant, and they may do considerable mischief. I have adopted the practice of asking to be excused from supplying comparative statistical studies of this sort to other hospitals, for in my experience the figures have been little more than guesswork and quite meaningless to others.

To be more specific, let me take one sheet of this material headed "Average Ratio of Patients per Nurse." In one column is listed the average daily census of patients, apparently in-patients only. In the next column is the total nursing staff and from that is calculated the average ratio of patients to nurses in a third column. This ratio varies from a low of 1.01 in one hospital to a high of 2.28 in another. Obviously, nursing figures that are so wide apart are confusing and cry for an explanation. None is given.

No consideration seems to be given in this study to a number of other factors. All patients are not in-patients. What value is given, then, to patients in the out-patient department? There are a few hospitals listed that have

tremendous departments and give considerable out-patient department service. What about the diet kitchen? At least three of the hospitals listed, to my knowledge, have exceptionally large and efficient departments to render auxiliary dietetic service. In Mount Sinai Hospital, for example, seven nurses apart from dietitians are assigned to this department. How active are the accident services in the listed hospitals and how many nurses are assigned to them?

Some hospital nursing staffs are made up entirely of graduates, others are mixed—graduates and students in varying proportions. What is the value of a graduate and a student? Some of the schools of nursing are on an eight-hour basis, others on different bases; and yet the eight or nine or ten-hour nurse counts as one individual. At Mount Sinai Hospital no student nurse works more than eight hours. There are many long educational periods during the school year when the student nurse gives six, four, or as little as two hours a day to patient care.

How many of the student nurses are permitted to take electives outside of the wards which, while maintaining the nurse on the list as an individual, takes her completely away from patient care in the hospital? I refer now to such desirable practices as assigning pupil nurses to the social service department and to visiting nurse work for several months, to affiliations outside for mental and maternity work. Also, how liberal is the nurse's vacation? Vacation schedules vary from two weeks to a month and would affect the ratio. And what value if any was given to orderlies who for all practical purposes are male nurses doing actual nursing work?

These are some of the factors which must be known if these figures are to take on any meaning. Otherwise one would wonder why one hospital needs a nurse for each patient while another is able to serve $2\frac{1}{4}$ patients with one.

Nurse Day Not a Yardstick

And what is a nurse day? As a yardstick for comparisons the nurse day has long been abandoned. In recent years, leading nurse educators have tried to make comparisons more valid by using the actual hours of nursing service to a patient as a basis. Several time-studies of nursing service on various wards at Mount Sinai Hospital have shown that the actual number of hours devoted to bedside nursing—

time spent on wards and floors for patients—if apportioned among all patients on each ward or floor, would average from three to more than eight hours daily; with variations due to the sex, age, clinical needs and type of room service taken by the patients. Our new group nursing plan provides a minimum average of eight hours of actual bedside nursing for each patient. With fewer patients in a group the hours of nursing service for each patient are increased. If the supplementary service of the orderlies is included in the calculation, the hours of nursing service are increased further.

But calculation of nursing service even in terms of hours of service does not present a complete picture for comparative purposes. Some allowance must be made for the difference in the quality of an hour of nursing by an experienced graduate nurse and of an equivalent period of nursing by an undergraduate nurse in various stages of training. An hour spent by a nurse on a large ward or a floor with long corridors, where the service units are inconveniently placed and imperfectly equipped, is one kind of nursing hour, whereas an hour spent on a floor where all essential nursing facilities and equipment are close at hand, is quite another.

Exceptions Make a Difference

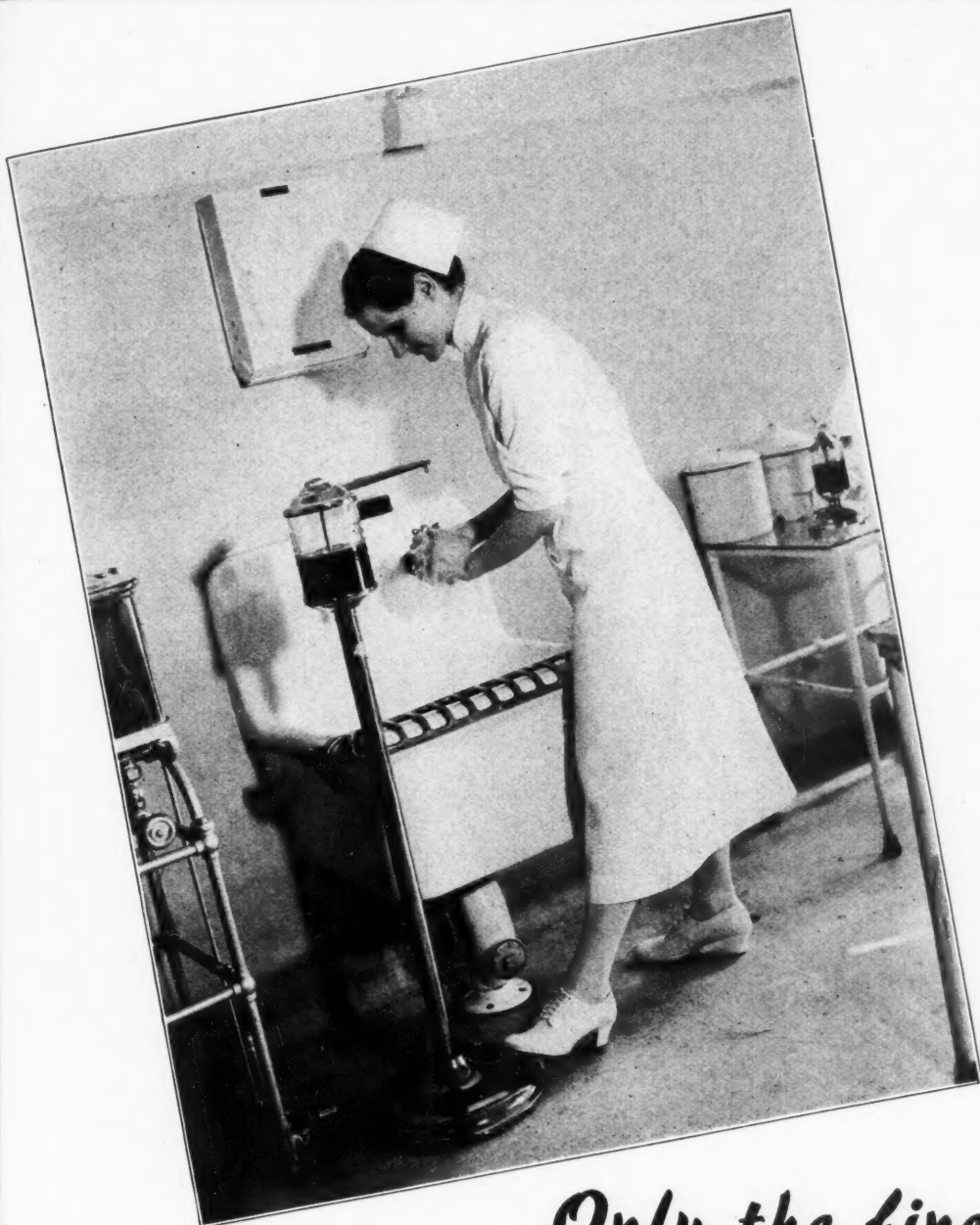
This is not all. An exception "B" in the data submitted "does not include special nurses," yet the patients cared for by these special nurses are included. Thus all patients including those with special nurses in one hospital are compared with only those patients without specials in another.

Based on an hourly study, we can show that a patient in our private pavilion on floor care averages more than eight hours of nursing service in twenty-four, while on the wards, where there are fewer steps to be taken in mass treatment, the nursing service may be as little as three hours per patient. Yet on a numerical count only, it can be shown paradoxically that there is a smaller ratio of nurses taking care of our private patients (if we include private patients with special nurses but do not count the special nurses) than there is nursing the ward patients.

I might go on like this page by page. What I want to point out is the questionable value of these comparisons despite the labor of preparing them. Anyone working on them is ploughing in fields in which stabilization cannot be achieved and in which averages are quite meaningless.

JOSEPH TURNER, M.D.,
Director.

Mount Sinai Hospital,
New York City.



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LITERATURE *in* ABSTRACT

Conducted by E. M. Bluestone, M.D., and Joe R. Clemmons, M.D.

Specialization Standards

As a teacher of gastro-intestinal roentgenology the author recognizes two principles that seem to be of great importance for the development of radiology.* First, the careful selection of the individuals who are to enter the specialty; and, second, a planned, adequate, supervised course of instruction. Doctor Holmes then traces the gradual development of postgraduate training in radiology and its present shortcomings.

At first there was the gradual separation among the general practitioners of medicine of those especially interested in a particular field. More intensive application, hospital work and study abroad led to recognition of these physicians as specialists in their field. The training was received in private as well as hospital practice. Soon the demand for a short cut to specialties led to the giving of courses—a financial arrangement primarily to hold out a man advancing rapidly as a self-styled specialist. The next step was the establishment of residencies and fellowships in hospitals, in which there was a conscientious attempt to train young men adequately for the specialty selected.

There has been a concerted effort to establish more adequate standards of specialization. This has taken the form of examining boards and qualifying certificates. Uniform standards are gradually being established. At present there are about 3,000 physicians in the United States practicing radiology as a specialty—of these about 850 are recognized by the American Board of Radiology. To maintain trained men in the field of radiology the hospitals offer only fifty-three approved residencies. This number is insufficient to maintain the yearly loss by death and accident, estimated at about 170 among the 3,000 physicians.

Utilizing all these facilities to the limit, still another type of training is necessary as well. There should be (1) "refresher courses" for men already in the field whose hospital connections are limited; (2) opportunity for adequate training of men who are to do routine work in radiology, and (3) the development of such courses as will attract some of the best minds among the younger generation in medicine and will afford them ample opportunity to develop as teachers and investigators.

After careful consideration of the different methods of instruction, it is

felt that the best method is that of the hospital residency rather than the postgraduate medical school. Both Columbia University and Massachusetts General Hospital have prepared such a system of training to cover a period of three years. (For details see the original article.) In both plans the hospital exercises the choice of the men who are to enter the specialty. The last year is spent at the university and the hospital. The candidate is urged to write a thesis and qualify for a master's degree. This three-year course or its equivalent is suggested as the basis of all qualification in the specialty of radiology.

*Holmes, George W., M.D.: The Development of Post-Graduate Teaching in Radiology, Radiology (Dec.) 1937. Abstracted by Leonard Tarr, M.D.

Surgical Follow-Up

The author* has described in detail the methods employed by the surgical department of the New York Hospital in following patients after their discharge. This department has 180 beds for all types of surgery, with 2,750 admissions a year. The surgical follow-up department is entirely separate from the central unit record system of the hospital. One member of the staff assumes responsibility for its management and there are two salaried secretaries employed. The social service department is used to contact patients. By the use of a card system patients are called back to the first follow-up clinic upon a date set by the house officer at the time of discharge. Only cases suitable for surgical follow-up purposes are included in the clinic. This clinic is held on a Sunday morning, which permits patients who are employed to attend. The patient's chart is at hand on the date that he is to return, and all data obtained are added.

A notice is sent to the patient several days before his return date, telling him where and when to come, that the service is given free of charge, and that if he cannot return, he should either phone or write. The first notice is sent in an unsealed envelope, for economy of postage. These are not returned by the Post Office Department, if not delivered. To those who do not respond, a second notice is sent in a sealed envelope with a business reply envelope enclosed. These are returned if not delivered.

The noncontacted group is then given to the social service worker who

personally tries to get a response by using addresses of friends, doctors, clubs, churches, insurance companies and so forth. Out of town patients are sent a questionnaire which they are asked to fill out with the aid of their local physician. When a patient has died, details of death or an autopsy report is requested.

This method produces an 80.2 per cent satisfactory follow-up, 6.4 per cent incomplete follow-up, 13.4 per cent not found. The total direct expenses of this clinic were \$2,500 for the salary of two secretaries, and \$350 for stationery and postage. The other incidentals were included in the general hospital budget.

The follow-up clinic is appreciated by the patient and it establishes ties between him, the physician and the hospital.

*Ray, Bronson S., M.D.: Ann. Surg. 106: 961:1937. Abstracted by Arthur H. Aufses, M.D.

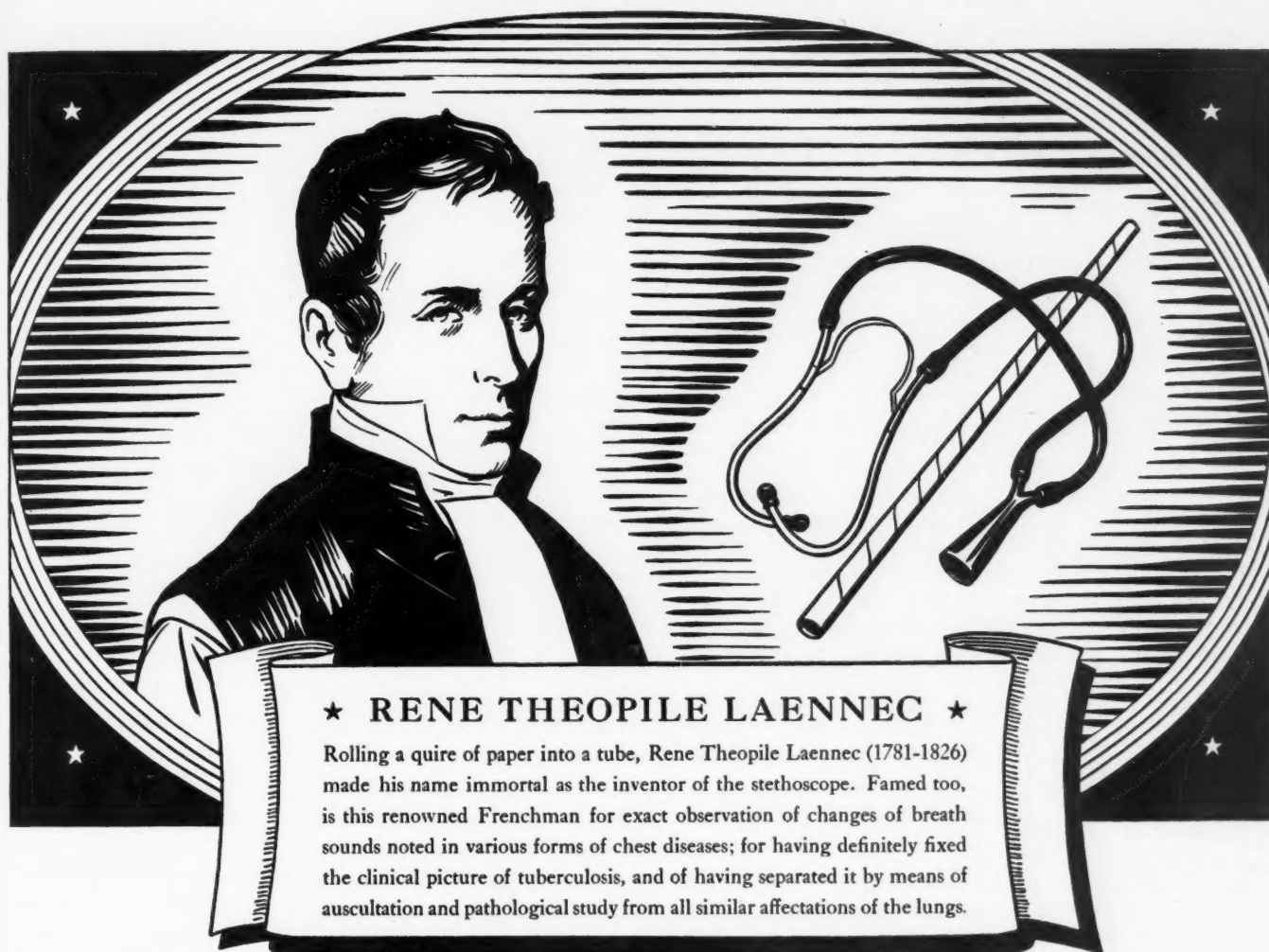
Professional Technique

Dietitians have actively participated in studies through national, state and local groups and have accomplished much in the development of the technique of the profession. Recently, however, the attention of the profession has been directed to the "Diet of Psyche," which means that success in the work of dietetics requires not only a perfected technique but a development of harmonious human relationships within the department.*

Seven basic qualities needed are: (1) interest in and affection for people; (2) good judgment; (3) sense of justice; (4) courage to meet and overcome difficulties; (5) cheerfulness and a sense of humor; (6) the acquired characteristics of calmness, fairness, patience, kindness of thought and courtesy, and (7) the ability to teach.

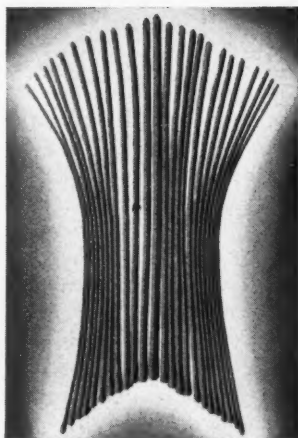
By extension of these various principles to fit the needs of the employee, those who are malleable and teachable can be made to fit their jobs with satisfaction. Others must, of course, be dispensed with but only after a fair opportunity has been given them to uncover what may be hidden potentialities. In all cases, while firmness and steadiness of objectives must not be sacrificed, great care must be taken to preserve the self-respect of each employee. Work well done should be suitably praised, and reprimands when necessary should be delivered in private. The head of the department must not render himself remote from his employees but must develop an attitude of mutual respect between himself and them.

*Cooper, Lenna F.: The Human Side of our Work, Journal of the American Dietetic Association 14:1 (Jan.) 1938. Abstracted by Samuel Parlett.



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Rolling a quire of paper into a tube, Rene Theopile Laennec (1781-1826) made his name immortal as the inventor of the stethoscope. Famed too, is this renowned Frenchman for exact observation of changes of breath sounds noted in various forms of chest diseases; for having definitely fixed the clinical picture of tuberculosis, and of having separated it by means of auscultation and pathological study from all similar affectations of the lungs.



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Public Medical Care

In a recent survey made by the U. S. Public Health Service in ten states, the disabling illness rate was 56 per cent higher among families hardest hit by the depression than it was among those in the more affluent groups.* The death rate from all diseases was found to be more than twice as high in the ranks of the unskilled workers, as compared with professional workers. During the period from 1929 to 1932, the death rate increased 20 per cent in families of which no member was employed or which contained only part-time wage earners.

Diseases that kill babies of the low income group in greatest numbers are the diseases in which there has been a general decrease in infant mortality. Disabling illness is 68 per cent higher among persons on relief than among people belonging to families which enjoy an income of \$3,000 or over. The incidence of disability among heads of families on relief is one in every 20, while among heads of families in the higher income groups the incidence is one in 250. Of all persons in the higher and the lower income group needing medical attention, those members of families having an income of \$3,000 or over, 80 per cent received medical attention, aside from hospital care, as compared to only 67 per cent medical attention in the case of those in the lower brackets. Because of the cost of medical care, about fifty million persons with family incomes between \$1,000 and \$2,000 require public aid in order to obtain the necessary care for treatment of certain illnesses.

It is becoming widely recognized that physicians and hospitals cannot be expected to render service to the indigent without remuneration. There devolves upon the public the responsibility of assuring adequate medical care for those who otherwise might be forced to depend upon the philanthropy of individual physicians.

*Roche, Josephine: Health of the Nation's Workers, Personnel Journal (Nov.) 1937 and Medical Care as a Public Health Function, Am. J. Pub. Health (Dec.) 1937. Abstracted by Samuel Parlett.

Supplementing the Staff

During the trying period between 1929 and 1932, the oversupply of graduate nurses brought about not only a lowering of standards in this field but the closing of many of the nursing schools.

The experience of the University Hospitals in Cleveland* is typical of the difficulties being encountered in hospitals owing to the present day shortage in this field and the impor-

tance of supplementing the staff with auxiliary workers. The time of the trained worker is being conserved by assignment of the more time-consuming activities to auxiliary workers. These institutions have appointed a number of ward secretaries and found them valuable. They have taken over details which heretofore made the life of the head nurse so difficult. They do charting, treatment books, answer telephones, direct visitors and deliver flowers.

The record of an eight-hour day of eighteen secretaries revealed a total of 120 different duties performed by them. A general improvement in service has also been noticed.

Another innovation inaugurated in these institutions is the optional privilege on the part of nurses to live out, for which an allowance of \$15 per month is granted. On the other hand, social workers and others not entitled to maintenance are permitted to rent these rooms for a similar amount. An additional charge of \$3 per month, however, is made for laundry. Meals are served at a pay cafeteria at reasonable prices. While few nurses have moved out, a much more contented feeling exists. Complaints about food have entirely disappeared.

*Faddis, Helen W.: Experiments in Solving the Staffing Problems, Am. J. Nurs. (Sept.) 1937. Abstracted by J. Goodfriend.

More to Divide

The demands of employees for concessions, involving greater expenditures should be regarded in the light of requirements for greater income.* The successful conduct of a hotel involves a satisfactory relationship between the employer and employee on one hand and the hotel and its guests on the other. Since meeting some of the demands of hotel employees has a purely economic aspect, the charges for service by the hotel should be made consistent with the increased cost of operation thereby entailed. Usually, if a proper presentation of the situation is made to the public, it is always willing to co-operate in the way of legitimately elevated prices for service rendered.

Admitting that salaries in the lower brackets are inordinately low, increases should begin at the bottom, those in higher brackets waiting until the legitimate demands of their not-so-fortunate fellow workers are taken care of. Care must be taken that no special group of employees, by virtue of a superior bargaining organization, shall be in a position to make demands that can be satisfied only at the expense of other groups of employees, particularly if the increases are brought about by reductions

from the salaries of the employees most poorly paid. The worker, on the other hand, owes the obligation to his employer, that, being fairly treated, he must do his best to help the management maintain good service.

The crux of the problem of meeting demands involving greater operating costs is running the business so that it shall earn more revenue. With more revenue earned, there is more to divide among employees.

*Green, Thomas D.: Employer-Employee Relations, The Hotel Monthly (Oct.) 1937. Abstracted by Samuel Parlett.

Carbon Dioxide for Meat

Gas storage is an elaborate form of cold storage involving, in addition to control of temperature and relative humidity, control of the composition of the gaseous atmosphere of the store.* The use of this third factor of control makes storage more flexible. With many foodstuffs, it will also prevent changes during storage which control of temperature and humidity alone could not do.

Chilled beef deteriorates because of the changes that take place near the surface of the meat, including the formation of slime and mold, development of rancidity in the fat, and loss of color or bloom. Forty days from slaughter is about the limit that beef can be kept unless the temperature is lowered below the normal 28.5 to 29.5° F. However, beef stored at chilling temperatures in air containing 10 per cent carbon dioxide will remain free from mold and slime for at least sixty to seventy days. This fact has been established both in laboratory and in commercial practice.

The problem in the storage of bacon is to prevent the oxidation of the fat. The fat of bacon oxidizes rapidly and even at -10° C. shows marked oxidative rancidity in a couple of months. For this reason, pure carbon dioxide is the ideal gaseous environment for the storage of bacon. Thus, tank-cured bacon has been stored at zero C. for eighteen weeks and was then indistinguishable from fresh bacon.

During the storage of eggs in air at ordinary or chilling temperatures several changes take place including evaporation of water, thinning of the white, weakening of the yolk membrane, decrease in the viscosity and a marked "storage taste" in the yolk. Experiments so far have suggested that air containing 2½ per cent of carbon dioxide and about 85 per cent relative humidity will produce a good quality egg even after a period of storage.

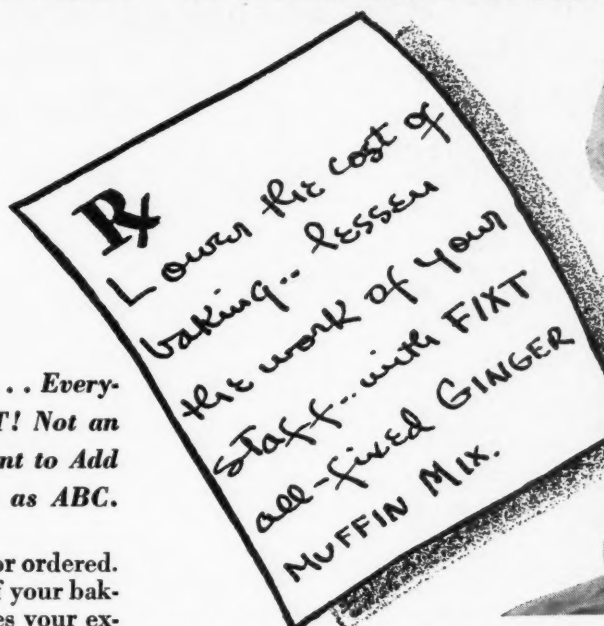
*Moran, T.: Gas Storage of Meat and Eggs, Food Ind. (Dec.) 1937. Abstracted by Amber Wolf.

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Patients appreciate the restful quiet of Boltalite tray service. Made of sound arresting material, they will not clank or bang and prevent disturbing noise in rooms, wards, corridors and kitchens.

Boltalite trays are readily sterilized; they may be sent right through the dishwasher without harm. They are good looking and being solid Boltalite there is no surface finish to chip, peel, mar or scratch.

These trays are economical and will withstand years of hard usage. They are available in round, oblong and oval shapes. The convenient coupon below will bring full information about Boltalite products.

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Position.....
Hospital.....
City.....State.....



BOLTA RUBBER CO., Inc.
LAWRENCE MASS.

Sanitary Handling

that rivals the strictest
hospital regulations



Safe FINER FOODS for 85 Years

We wish you could visit our great modern plants and SEE the "Hospital" care—with which Monarch FINER Foods are handled and packed . . . for then, you would know WHY, in addressing you, we STRESS VALUE . . . quality foods, close packed, providing you maximum number of servings, a point you'll agree is of first importance in the economies of hospital buying.

Write, wire or phone (SUPERior 5000) for representative to call.

Institution Department

REID, MURDOCH & CO.

CANNERS AND MANUFACTURERS

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Chicago, Ill.



FRUITS
WITHOUT
SUGAR

Also of interest is a fine and varied selection of solid pack pie fruits under our Red Lily Label.

"Quality
for
85 years"

A selection of Dietetic fruits and vegetables is also provided under the Monarch Label.

BOOKS ON REVIEW

RICHTLINIEN FÜR DEN BAU UND BETRIEB VON KRANKENANSTALTEN. (*Directions for the Building and Administration of Hospitals.*) Stuttgart und Berlin: W. Kohlhammer Verlag, 1937. Price, R.M. 6.60 (25 per cent reduction in foreign countries).

The handy volume is the result of the work of the German National Advisory Council for Public Hospitals. It is a handbook which offers on 193 pages in condensed form much valuable information on the following phases of hospital work: a general discussion of a planned hospital economy for specified areas; location of hospitals; new hospital buildings and types of building; types of hospitals and their special needs; the various medical departments including laboratories, x-ray, out-patient, physiotherapy and research departments; the different administrative departments with special sections on fire and fire prevention, natural and artificial ventilation, noise abatement, heating systems, personnel management and rules governing visitors.

Although the book was written mainly for German hospitals, it will be helpful to American readers because of the brevity with which it states the essentials of good hospitals.—GERTRUD KROEGER.

ICE CREAM FOR SMALL PLANTS. By Etta H. Handy. Chicago: Hotel Monthly, 1938. Pp. 180.

If the dietitian is intent on convincing the hospital administrator that she can lend greater variety to the menus, reduce dessert complaints, serve a fresher and better frozen dessert, and save at least 30 per cent on present ice cream bills by having a compact "plant" within her dietary domain, then she should by all means add this book to her professional library.

Numerous formulas for frozen desserts, novel variations and discussions of ingredient will not pass unheeded. The author has done her utmost to keep the reader alert to the importance of proper technique in the making, storing and dispensing of a less "sandy" product.—MARY EDNA GOLDER.

HOW TO GET MORE FOR YOUR PAY ROLL DOLLAR. By J. O. and Crete M. Dahl. Stamford, Conn.: The Dahls, 1937. Pp. 120. \$2.

The purpose of this book is stated in the title and is especially apropos with employee demands constantly before us.

The twenty-five chapters cover duties and training, job analysis and schedules, charts, employment policies, incentives, wages and cost cutting methods. It meets a need of the administrator who wishes to keep informed on current personnel management, offering many practical solutions to labor problems with the viewpoint that the superintendent needs a break as well as the janitor.

It is readable and concisely written, although the style is not as finished as in other of their books. Perhaps for that reason it may be more quickly and easily read by the busy executive. The inclusion of charts and record forms lends interest. The size, weight and clear readable type make it desirable. This should prove a handy reference or study book for those who employ and direct people in institutions.

—DORIS L. DUNGAN.

"OUR HOSPITAL HAS BEEN SAVED"

This is the enthusiastic comment of George P. Boor, president of the Maple Avenue Hospital of DuBois, Pa., after a recent successful campaign under the direction of Pierce and Hedrick.

The institution was not only in financial difficulties, but the relation of the hospital to the public was such that contributions of money and supplies had been falling off decidedly. The campaign radically changed the attitude toward the hospital. Other problems of internal management which had troubled the trustees for years were also smoothed out as a result of the campaign.

Mr. Boor enthusiastically commends and recommends the services of Pierce and Hedrick to all hospitals suffering as did the DuBois institution.

The campaign for better community support in this Pennsylvania town is only one of a number of recent successful efforts to interpret hospitals to their communities.

If you have a problem of a similar sort we shall be glad to discuss it with you at your convenience. Such consultation involves no obligation. Would you like to read our publication "Institutional Financing"? It is free on request.

PIERCE and HEDRICK

INCORPORATED

30 Rockefeller Plaza New York
837 Phelan Bldg., San Francisco

An aid to Doctors

THE idea of Hygeia Bottles and Nipples originated with a doctor who had been in active practice for 20 years. He realized as well as you that no equipment can ever replace proper medical care. But he was distressed by the germ-holding possibilities of old-fashioned, narrow-mouthed nursing bottles. So he invented modern Hygeia Bottles and Nipples—sanitary and easy to clean. He designed them as first aid to doctors.

Today every Hygeia advertisement says "Ask your doctor". This year, month after month, 41,000,000 copies of these messages go into American homes. Thus nearly every family in America is being told repeatedly of the value of good medical care and the importance of using the equipment which the attending physician recommends. Hygeia Nursing Bottle Co., Inc., 197 Van Rensselaer Street, Buffalo, New York.

(Reproduction of Hygeia consumer advertisement)

ASK
YOUR
DOCTOR

EXPECTANT!

Consult your doctor regularly before and after baby comes. Ask him about easily cleaned Hygeia Nipples and Bottles. New Hygeia Nipples and Bottles. New patented ridge prevents nipple collapse. Tab keeps nipple germ-free. Don't take chances. Insist on Hygeia, the safe nursing bottle and nipple.

HYGEIA
NURSING BOTTLE
AND NIPPLE

SAFEST because
easiest to clean





AN OFFER

to greater nursery safety

The use of Baby-San in your nursery brings more than an economical, time-saving bathing technique.

It brings comfort to new-born babies because a Baby-San bath leaves tender skins *soothed* and *lubricated*. It wins the good will of mothers. To your maternity ward it helps bring prestige and new patients, and to your nursery, greater income.

You can buy no finer soap than liquid castile Baby-San. Used in the Baby-San Dispensers* it is the choice of more than 75% of the nation's hospitals.

**Furnished free to users of Baby-San*

The HUNTINGTON LABORATORIES Inc.
DENVER HUNTINGTON, INDIANA TORONTO

BABY-SAN

AMERICA'S FAVORITE BABY SOAP

NEW PRODUCTS

That Bloom in the Spring—Tra, La!

A hospital, olfactorily speaking, is no bed of roses. In spite of the baskets, boxes and bunches of flowers that come in every day, their fragrance is usually overpowered by the more potent "hospital" smell of germicides and disinfectants. However, flowers or no flowers, we have learned how to make the hospital take on the sweetness of a lavender bed, complete with germicidal qualities.

Phenolor, a new germicide produced by E. R. Squibb and Sons, 745 Fifth Avenue, New York, is the answer. This product is designed by its makers to replace the official compound cresol solution U. S. P., possessing, it is asserted, the advantages of the official product, in addition to several of its own, such as the following: It is said to be non-poisonous even if swallowed, noncorrosive, nonstaining and nonirritating to the skin. Furthermore, it not only destroys offensive odors, but leaves in their place the pleasant fleeting fragrance of lavender instead of the customary cresolic or phenolic odor.

Squibb suggests as some of its uses sterilization of surgical instruments and sickroom receptacles, antiseptic hand wash, laundering of bed linens, garments, towels and surgical dressings, and washing of floors, walls and furniture.

Croup Kettle de Luxe

Remember, in your childhood, when an attack of croup brought out the bowl of boiling hot tincture of benzoin, and the towel over your head to concentrate the vapor? And the howls of anguish proclaiming that you were suffocating?

The rising generation will probably not know that particular sensation, what with the advent of such nifty vaporizing equipment as the portable Kenwood electric steam kettle, developed by Will Ross, Inc., of Milwaukee.

The kettle is built on a stand adjustable to any height, and its operation is claimed to be simplicity itself. The kettle is filled with water and the rubber covered cord attached to any 110-A.C. outlet and in a few moments the water starts to boil. The top insert of the kettle provides sufficient pressure so that the steam comes out in a gentle stream which can be directed at the patient. When medication is used, the medicant is placed in a cup below the steam outlet. The steam passing over it warms the medicant, releasing vapors which mix with the steam. When the water boils dry, the heater shuts itself off automatically.

For the Bacterial Census

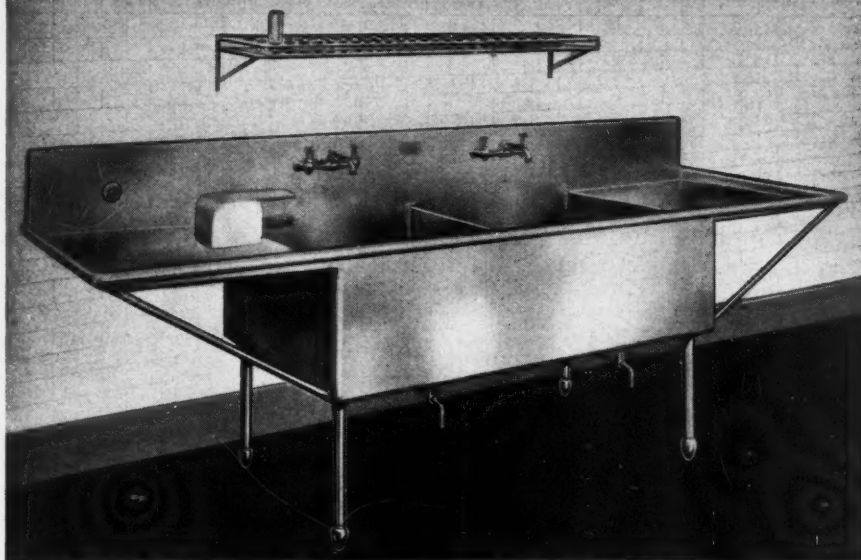
What a lovely life a census taker would have if someone would invent a colony counter for human beings like the bacterial colony counter now being offered by the Spencer Lens Company, Buffalo! Imagine scooping up a cross-section of the population into a petri dish, examining it under a magnifying glass and counting the number per square.

The Quebec colony counter that Spencer Lens is offering provides dark-field illumination and bright dividing lines for making bacteria colony counts. The oblique light, it is

MILK BOTTLE WASHING SINK

MADE COMPLETELY OF STAINLESS STEEL

for the Modern Nursery!



● With one compartment of the sink used for soaking bottles in soda and the other for re-washing them in fresh water, this fixture is precisely what is needed for the Milk Preparation Room. A motor-driven brush, for cleaning the bottles, is on the left-hand drain-board, controlled by a switch on the back panel and provided with an anti-splash shield. An automatic rinser is in the other section, which, like its sister sink, is 12" deep and fitted with a non-clogging lever-handle waste outlet. The unit is usually 8' long by 2' wide, and made entirely of Stainless Steel as is the drain rack above it.

● Write for Bulletin No. 11-NE describing this and various other items of equipment for the Modern Nursery.

Ask for Specification No. SS-4006

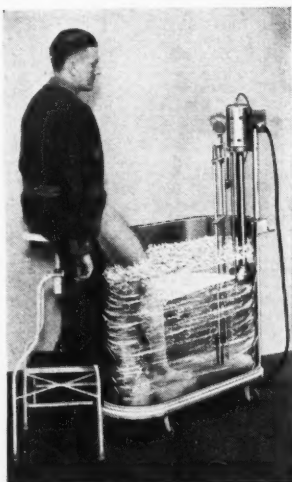
FLETCHER Model

The Conqueror Line



of Hospital Equipment

S. BLICKMAN, INC.
MANUFACTURERS OF HOSPITAL EQUIPMENT
WEHAWKEN, N. J.



Under-Water Therapy Tank with Hydro-Massage for Extremities

An improved "Portable Whirlpool Bath" for office, hospital and bedside use. Requires no plumbing job to install. For Painful Injuries of Extremities, Stiff Joints, Sprains, Synovitis, Teno-Synovitis, Contractures after Burns and Wounds, Adhesions, Contusions and various Peripheral Vascular Diseases.

Under-Water Therapy **with Hydro-Massage and Thermostatic Control**

A new system of under water therapy with hydro-massage and thermostatic control for PARALYTIC REHABILITATION and to improve function in ARTHRITIS cases. For rapid functional improvement in the after-care of fractures in orthopaedic surgery of the extremities. For group application of hydro-massage to extremities. For inducing mild hyperexias in almost any chronic infection.

ADVANTAGES OVER POOLS

Much larger field of usefulness.

More Efficient

Permits more individualized prescription.

More Accessible

Avoids hazards to technician's health.

More Sanitary

Initial and maintenance costs much less.



Under-Water Therapy Tank with Hydro-Massage and Thermostatic Control

Tanks Constructed of Stainless Steel

ILLE ELECTRIC CORP., 386 FOURTH AVE., NEW YORK CITY



M. BURNEICE LARSON, DIRECTOR

*.....a job that'd give you thrills
....would you like that?*

There's only once we pass this way . . . once. The task that's ours takes all our hours from sleep to sleep . . . why *not* use them, *spend* them, in tasks that give us thrills?

The fun of life *can't* be *all* in after hours.

It *could* be so we'd have *a job* that's fun, a job we'd *love* and give it all we have and *work* at it as though the thing *belonged* to us.

And when you own a job like that and give it all you have . . . life takes on a different look. Songs come quicker to your lips; confidence, security and great peace of mind take the place of restlessness and doubt and insecurity. Your income, in ascending scale *must* come, and *unerringly*, for that is the way the world pays its doers.

Find the job you'd love. Give yours then to another who'd love it, too. Live *all* of your life. Live in the job that asks and gets *all* of your energies, *all* of your enthusiasm and fight, and glory in its doing.

We will help. Will you ask us? Tell us who you are, all about you, where you've worked, and what you'd like to do. That's *our* job to find the finer tasks for our people; to find for hospitals the finest, the smartest in the land.

The MEDICAL BUREAU
55 E. Washington Street CHICAGO, ILLINOIS

said, illuminates the colonies so that they appear as brilliant spots or points on a subdued background. This principle increases the contrast between the colonies and the culture medium and improves the visibility so that very small colonies may be seen.

The case, made of sheet metal, is mounted on a standard which permits the lower end to rest on the table, while the angle of the case may be varied between the horizontal and such angle of inclination as may suit the convenience of the user. In the hinged top of the case there is a circular opening for a standard petri dish, which rests directly on the counting plate. The 60-watt bulb is located in the upper end of the colony counter and its illumination is intensified by a mirror placed at the lower end. The 4½-inch lens is mounted on a support so that it may be raised or lowered.

Rules the Waves

Long ago, before the discovery of the rubber hose as an aid in loosening tongues, the "water treatment" was regarded as an excellent method of extracting information from recalcitrant prisoners.

More recently, water treatment of a different order has been recognized as a cure for various ailments. With the development of hydrotherapy has come the development of instruments, charts and meters for the proper control of the treatment.

The accurate control of temperature in a continuous flow tub is important from the standpoint of therapeutic effectiveness and also of safety to the patient. The Powers Regulator Company, 2720 Greenview Avenue, Chicago, devotes three pages of its January, 1938 Bulletin No. 258-H to a description of a self-operating remote control system for continuous flow tubs. This, it is asserted, reduces the flow of water in the tub to a minimum, as an economy measure, and yet assures control of the temperature.

The system consists of a thermostatic control, a reduced flow remote control regulator for furnishing tempered water during treatment periods, a hand-operated selector valve, a dial thermometer for checking the operation of the controller and regulator, a vacuum breaker to prevent back siphonage, and a recording thermometer alarm unit to keep a record of the tub water temperature treatments.

Keeping Patients in Their Place

Much anxiety has been suffered by hospital staff members because patients, for one reason or another, just naturally couldn't stay put in bed and managed to flop out on to the floor when the nurse wasn't looking. Hence the bright idea of putting sides on the beds of psychopathic, delirious or restless patients to reduce the frequency of such accidents. However, the inconvenience of having to remove the sides to gain access to the patient has engendered the still brighter idea of making them of sliding construction so that they can be raised or lowered as desired.

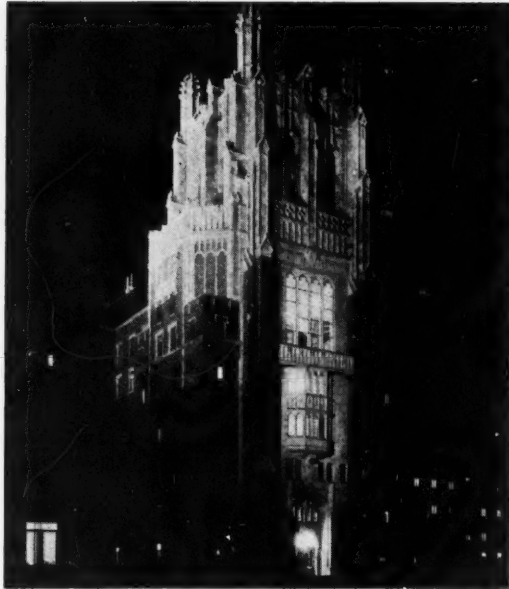
Inland Bed Company, 3921 S. Michigan Avenue, Chicago, is the proud producer of the sliding, removable bed slides. Any nurse or attendant, we are told, can instantly apply the sides to any crank operated hospital bed or any bed with the type of spring that has angle iron side rails. To lower the side, one simply lifts it slightly with the right hand, at the same time releasing a hand trip with the left. To elevate, lift the side back to its original level and it will automatically lock into position.

IDEAL FOOD CONVEYORS

IN USE IN THE GENERAL HOSPITAL, STATE UNIVERSITY OF IOWA, GIVE

10 Years Day-in and Day-out Service

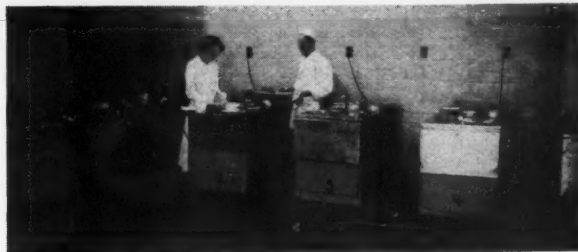
WITHOUT REQUIRING EVEN MINOR REPAIRS



Night view of the tower of the 800-bed General Hospital, State University of Iowa, Iowa City, Iowa.



Section of the large, well equipped central diet kitchen.



Partial view of the battery of 18 Ideal Food Conveyors on regular duty here at the General Hospital.



Serving 130,000 to 140,000 "kitchen-hot" meals a month—smack on the stroke of each meal time—is more than an ordinary task in this great state institution. Its 800-bed theoretical capacity (675 patients, on average, served by conveyor method) is confined to 4 floors. Horizontal distances are extensive. Yet, every patient, no matter how far situated from the central diet kitchen, receives a delicious, piping-hot meal—food kept right at the proper serving temperature, as hot as if it were served at the kitchen table. Meal service is concluded within a brief 20-minute period. The Iowa State University General Hospital uses 18 Ideal Food Conveyors. The first were installed over ten years ago. Not until recently, after 10 years constant usage, was there need on a single one of them for even minor repairs. A tribute to the built-in durability and dependability of Ideal equipment.



UNDERWRITERS' LABORATORIES APPROVAL. STAINLESS STEEL. Automatic Thermostat Control. 5-Year Electric Element Guarantee. Numerous exclusive features. Bulk food conveyors. Tray conveyors. Urns and coffee makers. Serving tables. Mobile cafeterias. Equipment for every institutional food service problem.

Write for free catalog

Ideal

FOOD CONVEYOR SYSTEMS

Found in Foremost Hospitals

Manufactured by

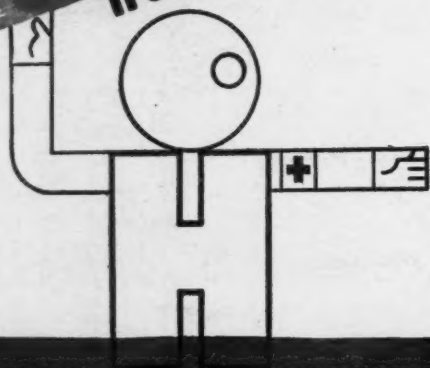
THE SWARTZBAUGH MFG. CO.

TOLEDO, OHIO, U. S. A. Established in 1884

Distributed by THE COLSON CORPORATION, Elyria, Ohio
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**WHEN HOFFMAN
IS PRESCRIBED FOR THE
HOSPITAL LAUNDRY**



**PATIENT SHOWS
SUPER-HEALTH!**



**PRODUCTION GOES UP
ABOVE AVERAGE!**

**OPERATING COST DOWN
BELOW AVERAGE!**



**EQUIPMENT APPROVED
BY AMERICAN
COLLEGE OF SURGEONS**

When you call Hoffman, experienced engineers devise methods to match production to your linen requirements. Hoffman recommendations mean a speedy cure for laundries afflicted with inadequate production and excessive operating costs.

**CALL HOFFMAN
TO MAKE A FREE SURVEY OF
YOUR LAUNDRY OPERATION**

U.S. HOFFMAN

MACHINERY CORPORATION

105 FOURTH AVENUE NEW YORK, N. Y.

COMPLETE LAUNDRY EQUIPMENT
SERVICE FOR THE INSTITUTION

Paging New Literature

Mother Goose on Gas—Gas is nimble, gas is quick, gas has it all over a candlestick. Anyone who doesn't believe it might try to fry a chicken over a candle flame.

To get the maximum benefit from gas cooking equipment, however, the gas consumption must be properly controlled to avoid wasting the fuel and reducing efficiency of the equipment. This point is particularly stressed in Catalog H-38 of the Detroit-Michigan Stove Company, Detroit. This booklet is the most recent effort of this company to reveal to seekers after knowledge the fundamental facts of the manufacture of gas ranges, ovens and broilers. The simply worded text is liberally illustrated with photographs and diagrams.

Casts of Character—Decidedly a fine art, it would seem, is the proper sculpturing of orthopedic casts. Handling plaster of paris demands considerable skill whether the subject on which the surgeon is working has a clean break, or is the badly mangled result of a race between an automobile and a railroad train.

Because it feels that the most successful use of any material requires a complete understanding of its basic qualities, the Lewis Manufacturing Company, Walpole, Mass., has published a 70-page book on plaster casts, directed to the persons most interested in the subject.

The book deals with such fundamental principles as the chemistry of plaster of paris, the selection of crinoline, hospital preparation and storage of plaster of paris bandages, and cast room procedure.

It is the hope of the Lewis Manufacturing Company that hospitals will find this discussion useful for reference and for training school work.

In Hot Water Again—Hot water being as the breath of life to any hospital (our metaphors may be mixed but you get the idea), a perusal of the catalog on instantaneous water heaters and heat exchangers, published by the Patterson-Kelley Company, Inc., East Stroudsburg, Pa., should get superintendents and engineers all steamed up. The catalog, liberally illustrated, is devoted to a discussion in nontechnical language of all the complexities of the inner workings and construction details of heaters and condensate coolers.

Horatio Alger Engineer—From hot water to cold is a natural transition, so our next attraction is a handsome thirty-two-page brochure on water-vapor refrigeration, issued by the Ingersoll-Rand Company, Phillipsburg, N. J. The development of centrifugal water-vapor refrigeration, one learns, is something of a Horatio Alger story of many years of research and experiment which finally culminated in the production of a practical commercial unit that has recently been placed on the market.

Using water as the only refrigerant and providing operating characteristics such as sustained capacity, self-regulation and high reserve capacity, these refrigerating units are claimed to be the last word in cooling water for air conditioning as well as a variety of applications in industrial and chemical plants.

The booklet gives data on dimensions and specifications which should be required for selecting suitable equipment, as well as showing illustrations of diversified typical applications.